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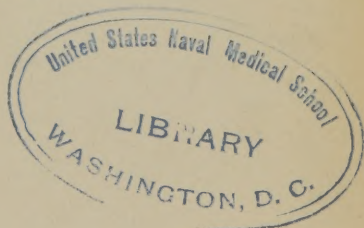
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LECTURES ON SURGERY.

BY

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ANN ARBOR, MICHIGAN,
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Prof. J. G. Gilchrist, M. D. :

DEAR SIR,—As a committee representing the students of the Homœopathic College of the University of Michigan, we are instructed to ask from you the permission to publish your notes on Surgery.

Recognizing the great benefit that must ensue from their use in a more tangible form, not only in student but in professional life, we earnestly request that you will furnish us a copy for publication.

We have the honor to be,

Very respectfully,

Your obedient servants,

WILLIAM B. KNAPP, M. D.,
S. EUGENE WARNER,
FRANK N. WHITE, } Committee.

UNIVERSITY OF MICHIGAN,
November 27th, 1877. }

Wm. B. Knapp, M. D., F. N. White, and S. E. Warner :

GENTLEMEN,—It gives me pleasure to be enabled to accede to your request, for a copy of my notes for publication.

Thanking you for the compliment expressed in your note,

I remain,

Truly yours,

J. G. GILCHRIST.

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PART FIRST.

GENERAL DISEASES.

I. INTRODUCTORY.

Surgery : Corruption from Chirurgia : "Work by hand."

That department in medicine, which treats of morbid processes chiefly characterized by objective phenomena, as well as all those which demand mechanical or instrumental treatment. The practice also includes, cases of accident, deformities resulting therefrom, that are congenital, or the sequelæ of disease.

1. DIAGNOSIS "Theory of disease:" Rests on three elements: (a) History of case; (b) symptoms subjective, and (c) symptoms objective.

Age : Fracture *vs.* dislocation; cancrum oris, *vs.* lupus; epithelioma, scrofulosis, *vs.* inflammation.

Sex : Thyroid body : Hysteria.

Occupation : Phosphorus workers: tailors, housemaids, miners, etc.

Social Condition : Married or single: abortions; sexual commerce.

Habits : Prostitution, masturbation, drunkenness.

Previous Diseases : Syphilis, struma; cutaneous diseases.

Hereditary Diseases : Cancer, phthisis, syphilis, gout, insanity, etc.

Alleged Cause ; Mostly to injury; misrepresentation, wilfull, and ignorantly, e. g. Infantile gonorrhœa, abortion, etc.

Duration : Tumors, and malignancy; hernia, abscess.

Course : Constitutional and local complications.

Errors in Diagnosis : Frequent, often unavoidable. Cases.

2. SEMIOLOGY: Interpretation of symptoms.

(a) *Subjective* : sensation; caution in accepting.

(b) *Objective* : Visible; external surfaces, or through specula. First importance.

Posture : Supine: Prostration; serious injury.

Bent forward: Abdominal lesions.

Bent backward : Spinal trouble.

Paraplegia : Spinal lesions.

Hemiplegia : Cerebral lesions.

Paresis : Local, spinal, or cerebral.

Mobility of parts : Fractures, spasms, luxations.

Physiognomy : Pinched, peritonitis.

Frowning, cerebral lesion.

Compression of mouth, pelvic lesion.

Expanded nostrils, thoracic.

Nervous System : Motion ; coma ; sensibility of parts.

Pain : Nervous, hysterical, neuralgic.

Organs of special sense : Sight, hearing, etc.

Respiration : Dyspnœa. Hyoid lesions, effusion, foreign body, etc.

Circulation : Local irregularities, sudden cessation of pulse in a part, venous enlargements, etc.

Digestive Apparatus : Vomiting ; gastric or cerebral.

Urine : Lithiasis ; Brights disease, or diabetes, forbids operations.

Genitals : Sexual functions ; epilepsy, brain lesion.

Skin : Temperature, moisture, vital forces.

Miscellaneous : Cachexia, etc.

PHYSICAL EXAMINATION :

Microscope : Ophthalmoscope ; specula.

Alterations in Form : Hernia, hydrocele, fracture, etc.

do *Color* : Bruise, gangrene, inflammation ; anæmia, asphyxia, etc.

do *Volume* : Tumors, hypertrophy.

do *Transparency* : Hydrocele, cysts, etc.

do *Consistency* : Emphysema, œdema, etc.

do *Relations* : Fractures, dislocations, etc.

do *Mobility* : Fracture, dislocations, ankylosis.

do *Pulsation* : Embolism, aneurism, etc.

do *Sound* : Thoracic effusion, aneurism.

do *Smell* : Pus, gangrene, etc.

Elicitation of crepitus. Fractures, serous inflammations.

do *Fluctuation* : Abscess, effusions.

Chemical Examinations : Little used ; liththiasis.

II. INFLAMMATION.

Accompanies, preceeds, or follows all morbid processes.

Hyperæmia : physiological, or reparative.

Inflammation : pathological, or destructive.

Objective : Redness, swelling.

Subjective : Heat, pain.

REDNESS.—Not a fixed blotch ; recedes on pressure and returns again. *Extravasation* remains under pressure.

Color: Arterial, bright red; active; acute. Venous, dark; passive; chronic. Modifications of color dependant upon shade formed by union of red and the natural color of part. Not alone diagnostic.

SWELLING: Cause, increase in blood; exudation; excited growth.

Serous or mucous surfaces, *much* effusion, equivalent to swelling in solid parts. Rigid organs, as bones, no swelling. Loose textures, swelling and solidification, as hepatization of lungs.

Exaggeration of natural secretions.

Quality depends upon inter-arterial (or venous) pressure; when moderate, *watery*, œdema; greater, albuminous, neoplasm; extreme, sanguineous, from rupture of vessels.

Characters: 1. Salts in larger proportion than in pure blood, e. g. chloride of sodium, and phosphates. 2. Organic forms, leucocytes or lymphoid corpuscles, amoeboid properties, *always* found, but sometimes few.

Differences: 1. Fibrinous, diphtheritic; 2. Pus, no coagulation; 3. Serous, or watery; 4. Sanguineous.

PAIN.—**Cause:** Nerve disorganization, stretching, or compression of fibrils. *Proportionate* to intensity, not extent. Greater in rigid tissues; less in loose textures. Insignificant on free surfaces, as intestines, etc., (as in cholera), when extension is on surface not in depth.

Quality varies: Phlegmonoid, pulsative, tight-bound, feeling of compression. Surfaces, as cuticular epithelium, smarting, pricking, or burning. Ulcerating, a literal gnawing. Oversensitiveness to external impressions, equivalent to pain, e. g. Eye, light, (phosphenes); Ear, abnormal sounds; Post-faucial, bitter taste; Ante-faucial, sweet taste; Mucous surfaces, reflex motory phenomena. Extension to some distance from point of inflammation; as to arm in paronychia, etc. Not alone diagnostic.

HEAT.—The most constant symptom, both subjective and objective. Parts warmer in proportion to vascularity. Inflamed parts actively calorific [Experiments.—HOLMES, I., 18 SIMON]. 1, Point inflamed warmer than the arterial blood supply; 2, Venous return current warmer than afferent arterial; 3. Venous current warmer than the opposite side.

Increased vital effort, causes increased heat. Temperature of the blood *generally* raised in inflammation.

RESUME.

Pain, or increased sensibility.

Redness, or “ blood supply.

Swelling, or “ secretion.

Heat, always.

Neither pathognomonic singly.

First indication, functional abnormalities. Secretions more or less suppressed, followed by exaggeration. Primary excitement, secondary exhaustion. Hotter blood, first diagnostic value. Process seems to extend by material contagion.

Feverishness : Hot, or heat and chilliness.—Skin, lips, etc., dry. Urine less, high color. Pulse quickened. Restless. Thirst. Face flushed and anxious. Sleepless. Delirious. Bowels inactive; dejections offensive. Duration, etc., dependant upon extent of inflammation.

PATHOLOGY.

BLOOD-VESSELS. *Arteries* : Primary, contractions; Secondary, dilatation, and increase in size in all directions.

Veins : Ultimately enlarged. Primary, circulation more rapid; Secondary, slower, and ultimately stasis. *All* arteries normally contract and dilate, but not to the same extent as in inflammation.

Amount of blood not so much increased as volume passing through from greater rapidity.

Causes : Vaso-motor excitement.

Direct stimulus, constriction of vessels and capillary anæmia. *Reflex* through sensory nerves, produces dilatation and hypermæmia.

BLOOD CHANGES.—Increase of fibrine and of colorless corpuscles. *Leucocytes* having amœboid properties. Escape of leucocytes—(see HOLMES, V., p. 751). Stasis, when complete, not the only change in appearance—seems entirely red corpuscles packed together.

Characteristics : Local stasis,—transudation, and migration of leucocytes.

TISSUE CHANGES.—Influence on tissues of a character to increase cell life. Permanent cells become leucocytes, by germination or segmentation, living at the expense of the tissues, which they may ultimately destroy. Changes due to organization of plasma. Vide "*Wounds*."

Characteristics in Inflammatory Process : 1. Pain. 2. Heat. 3. Swelling. 4. Redness. 5. Fever. 6. Primary arterial contraction. 7. Secondary arterial dilatation. 8. Increase fibrine in blood. 9. Increase in colorless corpuscles. 10. Local stasis. 11. Transudation. 12. Migration of leucocytes. 12. Increase of cell activity, and pseudo-growth. 14. Modification of function—Primary, exaggerated. Secondary, exhaustion.

TERMINATIONS.—Resolution. Suppuration. Ulceration. Mortification. Neoplasma.

CAUSES.

1. Determining, or exciting.
2. Predisposing, or maintaining.

DETERMINING :

- | | |
|--------------------------|------------------------------|
| 1. <i>From violence,</i> | } Mechanical.
} Chemical. |
|--------------------------|------------------------------|

2. *Morbid products.* Stone in bladder, stone in kidneys, stone in salivary ducts, stone in lachrymal ducts. Billiary concretions. *Retained Putrefiable Excretions* : Urine in paralysis. Faeces in rectum. Blood coagula, and tubercles, when disorganizing (*vide Phthisis and Pyæmia*) *Parts deprived of life* : Gangrene and sequestra, acting as foreign matter. ERGO, both mechanical and chemical, dependant upon the stage.

3. *Nervous Alterations.* 5th Nerve conjunctivitis, ulceration of cornea.

Pneumo-gastric, pneumonia. Sensory nerves protect against many external influences. Sensory paralysis deprives parts of sensibility, and they cannot protect themselves ; e. g. Catheterism prevents cystitis in paralysis ; air-tubes in pneumonia, etc.

4. *Changes in Blood.*

(a) Deficiencies in elements. (b) Specific irritants in,
a. "Poor blood" causes inflammation in many ways—Textural starvation forms foci ; arterial occlusion ; slight textural death. Privation from nitrogenoids ; not want of *food* but want of elements e. g. potash. Privations of poverty fill all these indications, hence prevalence of inflammation among the poor.

b. *Irritants in Blood.* Ars'. produces gastritis, canth', vesical troubles. Such irritants must show their presence in the products of inflammation. *Specific Poisons* : As syphilis or gonorrhæa. Glands swelling proves the material character of contagion.

2. PREDISPOSING CAUSES.

1. *Influences of Devitalizing Character* : Lowering of temperature : Inanition of poverty : Inanition of disease : Paralysis : Old age : Spinal lesions.

2. *Influences making one more liable than another* : Syphilis, past or present. Gout, past or present. Also forming differences in kind.

3. *Tissues once inflamed, more liable* to take on the same process again.

4. *Retention of Excretions* : Faeces. Urine. Also the saturation of tissues with putrifiable substances, as above, will cause either inflammation or tendency thereto.

TREATMENT :

Hygienic : Exclusion of irritants and removal of cause if discoverable.

Topical : Hot or cold ?

Remedies : Acon., Red, hot, shining, painful, restless, worse from warmth.

Antim c., Chronic, hot, *very* painful, glazed appearance.

Apis m., Œdema: Stinging, itching, or biting.

Ars. alb., Œdematous, burning, dry, like parchment, restless. Better from warmth.

Bell., Shining redness, swelling, great heat (pungent) throbbing. Better from pressure, worse from touch.

Calc. carb., Chronic, painless? glandular induration; flabby, weak.

Canth., Vesication; extends on surface, smarting like salt.

Rhus tox., Vesicular, itching, smarting worse on beginning to move.

Sulph., Chronic, of nearly all kinds, skin scurfy, thick skin.

III. ERYSIPELAS.

Diffuse inflammation, usually cutaneous or mucous surfaces: rarely, if ever, attacking deeper tissues. Mostly in head or face. Common after operations.

Always destructive; purely pathological.

1. Erythema. 2. Erysipelas.

I. ERYTHEMA:

Simplex, fugax, circinatum, marginatum, papulatum, tuberculatum, nodosum.

Simplex. Epithelium—pinkish blush, fading on pressure, returning intensified, Capillary, desquamation. Oval, tends to coalesce: no elevation; little increase in temperature—œdema often as a *cause*. 5 to 14 days.

(a) *Acute*, as above: Action of sun, on the edges of wounds under water treatment; gastric derangement

(b) *Chronic*. Uncertain intervals: from over-heating, etc.

Fugax. Ambulatory. Females, (chlorotic) mostly on the chest. Usual form of *chronic*. *Puls*, typical remedy.

Circinatum. Same, except extends in circumference fading in center. No elevation. Has been seen to cover all trunk and limbs successively.

Sep., *Sulph.* Typical remedies.

Marginatum. Same, except elevation of margin and darker color.

Papulatum. Papular modifying *Simplex*.

Tuberculatum. Tubercular modifying *Simplex*.

Nodosum. Wide difference; more serious, quite regularly oval, raised, sensitive to touch, painful, Anæmic cases. Rheumatic females. Color. *P.* Bright red. *S.* Many changes, yellow, blue, like echymosis. Shrink up and fall off. *Arn.*, *Lach.* Typical remedies.

Nodosum, *circinatum* and *fugax*, show constitutional disturbance; others trifling.

Remedies. *Ars.*, burning.

Apis., stinging burning.

Ant c., stinging when touched; fine stinging.

Arnica., tingling burning.

Aur., hard aching; weight in part.

Bell., bright red, in rays.

Calc., itching heat, stinging, smarting, or stinging-burning

Capsic., pungent stinging or smarting, dark.

Canth., smarting as from salt, stranguary.

Merc., ptyalism, violent itching.

Nux vom., burning, pricking like flea bites, skin feels sore, sensitive.

Puls., itching, smarting when warm.

Rhus tox., vesicular, corrosive itching.

Sepia., itching changes to burning, liver color.

Sulph., formication, tingling, itching.

II. ERYSIPELAS. Invasion slow, at times rapid. particularly in epidemics. Extent of primary fever does not foretell gravity of case.

First Indication. Fever with pain and swelling of cervical lymphatics. Q. E. D. Wounds, edges become pale, flabby; when united, fall asunder; granulations disappear; pus thin, ichorus or ceases.

Contagious? Epidemic. Old Hospitals. Inflammation, all tissues. Erysipelas, cutaneous, mucous and sub-cutaneous conn' tissue.

1. Simplex. 2. Œdematous. 3. Phlegmonous.

1. *Simplex.* Typical. Fever sometimes slight; again intense. Œdema more or less. Scrotum face, etc. Color terminates abruptly. Surface not smooth as looks. Coalesce and form bullæ with serum. Itching often intolerable. Pulse quickened; ominous when quicker, intermittent and thready on 6th or 7th day. Temperature high, proportion to fever and inflammation. Ominous above 105°. Mental sphere disturbed. Delirious at times; not furious. Urine, albumen, acid reaction, amorphous lithates, urea increased, chlorides diminished. Serum tinged, billiary coloring matter. Causes: Exciting; anything that will produce inflammation. Predisposing, blood changes not recognized, but thought to be, by many, actual adulterations. High living and low living. Termination: Resolution, Desquamation, Suppuration, Mortification.

2. *Œdematous.* Preceded by simple; broken-down constitution. Grave symptoms. Dangerous form. Low vitality, rather than intensity. Great œdema; almost anasarca. Color dark or yellowish-red fading under pressure. Pain comparatively moderate. Metastatic (E. Ambulans) fading in one place and advancing in another. Goes off ends of fingers and toes.

Termination : Gangrene, suppuration, resolution. Gangrene foretold by darker color, lividity of skin. Pus ichorous or serous; often followed by pyæmia. No limiting membrane. Cicatrization like burns, very irregular.

3. *Phlegmonous*. Preceded by E. simplex often. Œdematous rarely. Great gravity. Three stages. 1st stage.—Skin very dark; pain excessive or increased. Part hard, brawny or boggy. No pitting. Fever high; mind disordered. 2d stage.—Skin pales on pressure, slowly returning. Rigors later. Pitting. No fluctuating. Fever, pain, etc., abates. 3d stage.—Skin doughy. Urine heavily loaded with albumen. Sordes on lips and teeth. Mind much disordered. Gangrene of skin, peeling off in long strips. Subcutaneous parts more or less disorganized. Pus profuse. Ichorous, etc., mixed with debris. Sometimes whole limb crippled or destroyed. Points of granulation to be saved. Termination: Gangrene, Suppuration, Death, Resolution. *PROGNOSIS favorable*: simple, uncomplicated, surroundings favorable, sporadic. *Guarded*: epidemic, phlegmonous or œdematous with dropsy, preëxisting organic disease of liver, kidney or heart during adynamic fever. Long lasting and pulse keeps quick or becomes accelerated. Metastasis rare. *Duration*.—Simple cases, 5 to 10 days. Bad cases indefinite, 10 to 21 days or more.

TREATMENT: When pus forms let it out by free incisions. Preventive in Œdematous and Phlegmonous. Theories: 1. Modified inflammatory excitation. 2. Typhus depression. Prostration either case. *Hygienic*. No alcohol. Cleanliness. Ventilation. Sufficient nourishment. Avoid unnecessary instrumental interference.

Remedies: Compare Suppuration, Inflammation, Pyæmia, Gangrene, etc.

Arsenic., Rapid prostration, exudation, excessive thirst, restless, diarrhoea, better from warm, worse from cold. Septic influences.

Bell., Pungent heat—bright red; rays, follows lymphatics. Light, motion, contact worse.

Lach., Purplish color; delirious on closing eyes. Faintishness, numbness, suppuration in spots, cheesy; bullæ, dark colored serum.

Rhus., Vesicular, intense; extends on surface; great swelling, stinging, smarting and burning.

Sil., Worst form; extends in all directions. Pus profuse, bad smelling. Profound vital derangements.

Calend. Promote healing, denuded surface, and lessen suppuration.

IV. SUPPURATION.

Termination of inflammation in the formation of pus. More intense and rapid inflammation, short of congestion, more profuse pus.

Pus. 1. Corpuscle. *Virchow*. Connective tissue cell. *Rokitansky*. Blood plasma. *Frey*. Lymphoid corpuscle. *Cohnheim*. Leucocyte. Migratory leucocyte takes on a pseudo fatty degeneration.

2. Liquor puris. Serum of blood in all particulars. Vascular? Extra vascular, or both characters. *Laudable*, creamy, yellowish, inodorous, neutral reaction. Quite rare. *Unhealthy*, acrid, ichorous, corroding, serous, albuminous, curdy, grumous. Degeneration from standard mixed with debris (*Ichoræmia*). By compression, etc., contiguous tissues broken down and liquified. Sanguineous effusions, at times pus, at times plastic formations, etc. Why?

Forms. 1. Purulent secretions. Luxuriation, reparative. 2. Abscess: acute, chronic, cold, lymphatic, diffused, emphysematous or tympanic.

Abscess acute. Definition. Pyogenetic membrane. Diagnosis. Palpation for fluid. Trocar. Exploring needle. Aspirator. Rigors change of pain. Course and Symptoms. Pus laudable? Cause, exciting: Acute inflammations. Predisposing: See inflammation.

Chronic. Strumous or cachectic. Lymphatics. Little discoloration and pain; minimum inflammation. Unhealthy pus; thicker but imperfect(?) pyogenic membrane. Concretions.

Diffused. Rapid inflammation. Cellulitis. Erysipelas. No limiting membrane. No fluctuation. No pointing. Usually gangrene. Long sinuses.

Tympanic. Modified chronic. Mucous or intestinal regions. Partly filled with air.

TERMINATIONS: 1. *Pointing*; sinus, fistula. 2. Absorption. *Pointing*, by absorption of intervening tissues; necrotic; attenuation, etc. of blood vessels; long distances, usually on the nearest surface.

Sinus. Track leading from abscess, whether to surface or not.

Fistula. Track remaining open; abnormal communication between two cavities, or natural cavity and surface, *i. e.*, Recto vaginal or anal fistula.

Absorption. Possible; vis medicatrix naturæ, or art. Method, dry up; fatty metamorphosis, cheesy or cretaceous. Useless.

TREATMENT. Purulent secretions; preserve healthy characters. Abscess; *acute*, evacuate. Local anesthesia. Rhigoline. Ether spray. *Chronic*; evacuate carefully, or promote absorption. *Diffuse*. Evacuate freely. *Sinuses* slit up. *Fistula* recut, pressure and proper remedies. Chronic—destroy pyogenic membrane.

Suppuration generally. Remedies to preserve or restore laudable characters.

Remedies. *Arnica*, Hot, hard shining swelling after blows; to avert suppuration. *Arsenic*. Copious bloody corroding or ichorous; watery; smell putrid. *Baryta Carb.* Lymphatic; old people. Pus scanty and curdy. *Belladonna*. Less pus than inflammation promised; thick yellow. *Bryonia*. Pus brownish, putrid or yellow. *Calc C.* Either copious or scanty, yellow and putrid, or white like milk and thin. Lymphatics. *Calendula*. Laudable, too profuse. *Carbo Veg.* Bloody, ichorous, corroding or yellow. *Cham.* Corroding and scanty, thin. *China*. Watery, ichorous, putrid. *Coni.* Viscid, putrid. *Graph.* Corroding, watery, scanty, putrid. Smells like herring brine. *Hepar Sulph.* Scanty, bloody, corroding. Smells like old cheese. [To hasten suppuration and promote healthy change in most cases]. *Iodine*. Very profuse; enormous. *Lycopod.* Bloody, corroding and putrid, whitish milky appearance. *Merc.* Almost any color and consistency, but scanty or corroding or acrid. *Phos.* Copious and yellow. *Pulsatilla*. Copious bloody, green, yellow or yellowish green. *Rhus Tox.* Copious serous and corroding. *Silicia*. Copious or scanty, brown and gelatinous or bloody, green, grey, yellow, thin and watery. Putrid. *Sulphur*. Thin, blackish serum, of putrid smell.

V. PYÆMIA.

Syn: Purulent infection.

Analogue: Typhus fever (?)

Pyæmia vs. surgical fever.

Condition, toxæmia, septicæmia.

Theories: Suppurative phlebitis; denied, by Callender (HOLMES, I, 268). Embolism, soften, etc. Lymphatic absorption. Septic introduction in some way.

Admissions: Through cut veins. Patulous vessels (puerperal); natural passages: Medium of flies: Air.

Characteristics: Low fever: pyogenic tendency; after operation, great exhaustion, hæmorrhage, post-parturient. Healthy pus innocuous, in blood. Some of the products of decomposition.

Symptoms: Rigors: persistent, regular or irregular. Ichorous metamorphosis. Premonitions as in Erysipelas. Apathy or mild delirium. Muddy complexion. Urine diminished. Pulse

weak, rapid, irregular, jerking, compressible. Sordes on teeth. Tongue, brown. Sweet, nauseous breath. Dry skin, towards fatal close, clammy. Skin brown, tawny. Eyes dull, lifeless. Temperature mostly lowered, rarely above 104. No thirst; no wants of any kind. Rapid emaciation. Bed sores, profound adynamia. Abscess in various places. *Blood*: Pus cells, fibrine disorganized, loss of contractility.

Special symptoms, as different organs invaded: Vomiting, cough, diarrhœa, coma, etc.

After operation appears after second day.

Duration: a few days to many weeks.

PATHOLOGY:

Emboli. 1. Pus cell encapsulated by fibrine, form nucleus. 2. Fibrine, lost contractility, encloses a large amount of serum: nucleus. Emboli forms as an *effect*. *Arrested by*: Diminishing calibre of vessel. Increasing size of clot. At one of the valves, or at bifurcation. Sometimes adheres at point of formation.

Center organized, periphery soft; particles detached, forms new nucleus. Parent mass grows until arrested.

Vein occluded, distal side disintegrates first; new nucleus. *Partly occluded*, oldest portion, center, breaks up first.

Results: Engorgement at points of arrest. Serous exudation, arrested nutrition, molecular disintegration, suppuration (Ichorrhœmia).

Each new abscess, new point of origin; successive embolus, nucleus. Healthy body, no such result; product of disease.

Ergo: If pus does not circulate and *form* in blood, morbid changes in this fluid at fault.

TREATMENT: Vide Typhus fever.

Remedies: *ARS., Lach., Sil., Rhus.*

VI. ULCERATION.

A termination of inflammation. Similar to gangrene; necrotic, molecular disintegration.

Open sore, discharging pus, ichorous in proportion to activity.

Abrasion, removal of epithelium. *Ulceration*, removal of proper vascular tissue.

Location. 1. Mucous tissue. 2. Cutaneous, particularly lower extremities.

Idiopathic: *Symptomatic*: *Specific*. Shape and characteristics, peculiar and pathognomonic. Either may be traumatic.

Causes: 1. Predisposing or maintaining. (Erichsen) Deranged assimilation, *e. g.*, (1) Deposition normal, absorption too active. (2) Absorption normal, deposition deficient. (3) Elimination of spoiled, dead matter.

2. *Exciting or immediate*: 1. Inflammatory action. 2. Wounds and injuries. 3. Devitalization from pressure, or other vascular impediments. 3. Action of fire or corrosive substances.

Women: Habits of life predisposing.

Old age: Senile changes; atheromatous, calcareous, etc.

Poverty: Squalor, inanition, etc. "Safety vents." Cure vs suppression.

CLASSIFICATION:

Idiopathic: Simple; Weak; Indolent; Inflamed.

Symptomatic: Sloughing; Varicose; Irritable; Hæmorrhagic.

Specific: Scorbutic; Strumous; Cancerous; Syphilitic; Mercurial; Lupous. (Vide special sections).

Simple: Typical; circular, oval, shallow, healthy pus, healthy granulations. Heals readily. Remedy, *Calend.*

Weak: Simple, mal-treated. Granulations flabby, large, jelly-like; pus thin, watery, suppressed. Edges pale, elevated.

Remedy, *Sempervivum Tect.*

Inflamed: Maltraeated, stimulating. Granulations large, firm, sometimes destroyed. Pus thick, offensive, blood streaked. Edges raised, much inflamed, also surrounding parts. Painful, sensitive.

Remedies, Ars., Bell., Puls., Merc.

Indolent: Chronic. Primary, or bad treatment. Granulations' firm, small, wanting. Pus absent, or thin and bad-smelling. Edges elevated, hard, irregular, ragged, skin indurated, discolored, firmly adherent to bone; covered with scabs or scales. Painless, without sensation; "old men's sores;" on leg below knee. *Remedies: Baryta C., Graph., Sil.*

Sloughing: Primary, or succeeds "inflamed." Granulations disappear. Edges become sharp cut and discolored. Pus becomes ichorous and putrid. Base grayish. Painful; extends rapidly; much fever and general disturbance. *Rem: Ars., Merc., Lach., Nit. ac., Sulphur. ac.*

Irritable: Women, nervous, billious, middle life; small. Edges irregular, flat. Granulations absent. Base, tough, gray slough. Pus thin, acrid. Painful, excessive; sensitive. *Rem.: Asaf., Bell., Merc., Cham., Sep.*

Varicose: Not incurable. As other varieties. Anamnesis, and appearance of surrounding parts distinctive. Rupture of venous pouch not cause. Modified nutrition, from venous derangement. Varix must often be cured first. *Rems.: HAM., Nux. V., Lach., Sulph.*

Hæmorrhagic: Women: Amenorrhœæ: Oozes blood at catamenia. Similar to irritable. Purple color, small, circular, painful, sensitive. Common "safety vent." Discharges vari-
ous. *Rems.: Ars., Carbo. V., Phos., Sil., Sulph.*

TREATMENT: Topical forbidden. Strapping; Rest; Elevation of member. *Prognosis.* Heals from center, bad. From periphery, good.

First result, when curative: Edges flatten down, pain lessened, pus becomes laudable, slough detached, itching or biting may succeed pain.

REMEDIES.

Acid Mur., Fœtid, scurfy, itching, stinging; stinging when touched. Pus fœtid, scanty.

Acid Nit., Sensitive, pricking like splinters or pieces of glass. Mercury or Syphilis. Pus fœtid, not profuse.

Acid Phos., Painless, chronic; little feeling. Pus dirty color, fœtid.

Acid Sulph., Corrosive burning, biting Pus corrosive. (Hæmorrhage).

Ambra Gris.: Painless, chronic; worse every spring. Pus grayish, salty ichor.

Ammo Carb., Flat, putrid; pungent sensation. Pus white and putrid.

Antimon Cr., Fistulous, deep; spongy, exuberant granulations; sore pain. Pus scanty.

Argent Met., Boring pain. Pus copious, bloody, gelatinous, yellow or corrosive.

Arnica. Jerking, bluish, bleeds easily, indurated, swollen; shocks, tenseness. Pus bloody or gelatinous.

Arsenic: Burning interior, felt while sleeping. Base like lard, or black-blue, bleeds slightly on bandaging. Spreading, skin purple color. Pus copious, bloody, ichorous, putrid and corrosive.

Assafœtida: Violent pain, pain changes character on touching. Pus copious.

Aurum: Mercurial, deep, fistulous, swollen, painful. Pus yellow, fœtid.

Brryta C.: As if burnt; indurated, scabby, painless, swollen, tenseness. Pus wanting, or scanty and gelatinous.

Belladonna: Burning on touching; black crust in base; deep, scabby; cutting pain. Painless, though much inflamed. Painful, acute, throbbing. Pus scanty, bloody and ichorous.

Byronia: Itching, burning, scabby, inflamed; stinging when moving; throbbing. Pus scanty, brown.

Calcarea C.: Scrofulous. High, florid granulations; putrid, little pain. Pus scanty, albuminous.

Calendula: Excessive suppuration in otherwise healthy ulcer.

Cautcharis: Smarting and stinging. Pus copious, inodorous, sometimes bloody.

Carbo Veg.: Once cured, breaks out again, and instead of pus, emits bloody lymph; surrounding part hard; burning as from a coal. *Pus* scanty, brownish, foetid, cadaverous swelling, sanious.

Causticum: Bleeding blisters on surrounding skin, boring burning; pain as if burnt, pustules around. Swollen tense feeling. *Pus* thin as water, corroding, greenish or gray, sometimes bloody or yellow.

Cham: Hitherto painless, suddenly painful—creeping in ulcer, sensitiveness to touch.

Chelidon: Old, putrid, spreading, deep fistulous.

China: Boring, painful sensitiveness; beating pain when moving; foetid, flat, and gangrenous. *Pus* bloody, foetid and ichorous.

Clematis E: Burning, creeping, jerking, throbbing, shooting when touched. Scabby deep, indurated. *Pus* scanty. Serous, yellow, acrid.

Conium: Pains waken at night. Bleeding. Edges black, creeping, tension, indurated, fistulous, livid skin. *Pus* foetid and watery, ichorous.

Cupr. Met: Old; contracted feeling in skin. Hard, inflamed, jerking. *Pus* scanty, corroding.

Dulcam: Insensible, hard, painless, swollen. *Pus* yellow, scanty.

Euphorb: Old, torpid, fistulous; lancinating, turn black, Biting. *Pus*, sanious.

Graphites: Exuberant granulations, crusty, hard, itching, sore. *Pus* bloody, watery, acrid, putrid, like herring brine.

Hepar S: Mercurial, jagged, smarting, surrounded by pustules. *Pus* any character; like old cheese.

Hyoscyamus: Inflamed, surrounding skin vermillion redness; large pustules around.

Iodium: Hard, painless, spongy, swollen, feeling of tenseness. *Pus* excessively copious, bloody and corroding, or thin, watery and yellow.

Kali Bich: Dry, oval, as if punched out; overhanging edges, bright red areola, hard base. Extended in depth. *Pus* scanty.

Kali Carb: Gnawing, bleeding, burning, boring, corroding. *Pus* copious, bloody, ichorous.

Lachesis: Extends rapidly, small ulcers in areola coalesce; ragged edges, dark mottled areola; burning when touched. *Pus* scanty.

Lycop: Fistulous, hard, red shining, inverted edges; itching at night when touched; surrounded by papillæ. *Pus* copious, albuminous, or sanious, gray, yellow, acrid.

Mercurius: Spreading superficially. Spongy, readily bleeding, exquisitely painful, sensitive to touch, bluish, livid, hard, ragged, elevated edges. *Pus* anything but laudable.

Mezereum: Burning, or excoriated. *Pus* scanty or suppressed.

Natrum C: Burning, pricking, pulsating. *Pus* acrid, putrid, yellow.

Natrum M: Superficial, red, angry looking, smarting, surrounded by vesicles. No *pus*.

Nux Vom: Raised pale red edges, pain as being beaten, burning, as if burnt. *Pus* greenish, corroding.

Petroleum: Fistulous rapidly spreading, spongy, pain pricking; deep, flat. *Pus* scanty, acrid, watery.

Pulsatilla: Flat, putrid, carious, fistulous, edges hard; surrounded by papillæ. *Pus* copious, bloody, green, albuminous or yellow.

Rhus Tox: Small vesicles, turn to putrid, spreading, gangrenous ulcers. *Pus* sanious, acrid.

Sccale: Become black, bleeding easily; painless. *Pus* putrid.

Sempervivum: Immense jelly-like granulations. *Pus* scanty, thin, colorless.

Sepia: Blisters around; deep, crusty, flat, painless, fistulous. Edges high, swollen. Pain as if burnt, jerking, itching, pricking, tearing or painless. *Pus* all characters, mostly viscid and copious.

Silicea: Extend in depth; fistulous, painful, sensitive. *Pus* almost any character, mostly copious, brown and watery.

Sulphur: Readily bleeding, surrounded by pimples, ragged edges, œdematous swelling, reddish brown discoloration of skin. *Pus* thick, yellow and fœtid, or thin and fœtid.

Thuja: Indurated edges; raised, ragged edges, surrounded by pustules; deep, burning, fistulous; exuberant granulations. *Pus* yellow.

Tartar Emet.: Deeply penetrating, malignant, broad, surrounded by black pustules, breaking down and forming ulcers. *Pus* fœtid and sanious.

Adjuvants: Dry earth: Galvanism.

OPERATIONS. *Niissbaum*: Incision to fascia around, then lint, firm bandage; 2d day re-dress, water dressing (*A. H. Obs.* XI., p. 315.)

Cell-grafting, aided by mild galvanic action: Silver plate to ulcer and zinc plate on skin; wire eight inches long; and leather and vinegar under zinc. (HELMUTH, page 498). Plastic operations, rarely successful.

VII. MORTIFICATION.

Syn.: Gangrene.

Death of a part as a whole, i. e. opposed to molecular. Sphacelus soft parts. *Acute*. Hot, humid. *Chronic*. Cold, dry. Traumatic. Idiopathic.

Diagnosis. Ecchymosis *vs.* gangrene. Color. Previous condition. Cessation or change of pain. Slough. Temperature lowered. Internal organs *suspected*.

Causes: 1. Predisposing. 2. Exciting.

1. *Circulatory*. Cardiac insufficiency. Arterial degenerations. Senility. Drugs, as *Secale*, etc. Exhausting diseases. Inervation.

2. *Circulatory*. Any interruption of circulation. Ligature. Bandaging. Tumours, etc. Embolism. Specific poisons.

Prognosis favorable, surface or part small. Rapid progress. More or less pain, particularly surrounding. Moist. Moderate inflammation. Young people. Traumatic.

Unfavorable. Progress slow. Dry. Intense inflammation or none. Old people. Debilitated.

TREATMENT. Favor detachment of slough. Preserve temperature. Amputation, when progress is stayed. Line of demarkation forms. Traumatic cases. Frost bite.

Ars., *Lach.*, *Secale* particularly indicated.

GANGRENEOUS DISEASES.

BED SORES.

Sloughing ulcers in bed ridden people. At times late, others early. Extent. Seat not dependant on vascularity.

Causes. Predisposing. Low vitality. BROWN-SEQUARD, shows that it is spinal irritation, with local and general anæmia. Exciting causes. Pressure long continued.

TREATMENT. *Preventive*.—Dry bed, constant change of soiled clothing.

Hygienic. Cleanliness in all respects. Air-bags and pillows. Tubs of water under the bed.

No caustics or irritants. Cell-grafting. Galvanism.

PHAGADÆNA: *Syn.*: Hospital gangrene.

Rare in civil practice, old hospitals common, attacks wounds, and open sores. Rapid, destructive inflammation.

Symptoms: Points of soft gray slough; ulceration extends in all directions. Surrounding skin œdematous, livid, circular form, edges everted and sharp cut. Grayish-green tenacious slough, sways to and fro, cannot be removed. Discharge dirty yellow, green, or brown. At times slight bleeding. Pain, burn-

ing, stinging, lancinating. Fœtor; all tissues destroyed, blood-vessels resist longest. Irritative fever: sometimes pyæmia.

BLACKADDER (Erichsen, p. 362) vesicles, bloody ichor, hot stinging; breaks, and shows deep, spreading ulcers.

TREATMENT. Cleanliness. Ventillation. Some authors, chloride of zinc, followed by carbolic acid paste. Mild poultice for separation of slough. *Ars.*, *Sulph. ac.*, *Tart. Em.* AMPUTATION?

CARBUNCLE. *Syn.*: Anthrax.

Debilitated people, aged, posterior surfaces, (back of neck). Inflammation, swelling, pain, one to six inches diameter. Flat, circular, dusky red, slightly raised. Becomes darker, separate at edges, fissures; thin, scanty, bad smelling pus.

Constitutional symptoms, severe. Bad cases death.

TREATMENT: Incision. Caustic potash. *Ars.*, *Bell.*, *Lach.*

BOILS. *Syn.*: Furuncle. Abscess nucleata.

About hair follicles. Inflames slowly, suppurates slowly. "Core." Gastric derangements. Robust health. Critical, in fevers, and eruptive diseases. Sometimes premonitory. No assignable causes; prick, scratch.

Diff. Diag. *Carbuncle*: Little pus, large slough. *Boil*: Small slough, much pus.

TREATMENT: *Arn.*, said to abort. Lancing brings out a crop. *Hep.*, Hastens suppuration. *Sulph.*, expels core.

FELON. *Syn.*: Paronychia. Whitlow.

Peculiar suppurating disease about the ends of the fingers, sometimes toes, rarely elsewhere.

Four varieties: 1. Simple suppuration around root of the nail. 2d. In cellular tissues, tips of fingers. 3. Beneath the fascia. 4. True whitlow, beneath deep fascia or periosteum.

Pain increases from first to fourth. Suppuration slow.

Destruction from nail in first to whole finger or hand in fourth. Resulting deformity often great. Tenderness for years.

Causes: Obscure. Washerwoman, or those working in water, particularly hot water.

TREATMENT: Open early, and freely.

Aborted: Hot water. Strong lye. *Iris Vers.* Skin of boiled egg, which aggravates at first. (HELMUTH'S *Surg.*, p. 488.) *Nit. Ac.*, *Hep.*, *Merc.*

REMEDIES, in *Gangrenous diseases*.

Arnica: Hot, hard, shining swelling, with pricking in the skin.

Arsenic: Great weakness and emaciation; deep, burning pains, with œdema. Fœtid, watery, burning diarrhœa.

Aurum: Very sensitive to cold, with suicidal melancholy.

Belladonna: Fiery redness of skin, painful, sensitive to touch; better from pressure.

Crotal Hor: Fainting, tremulous; hæmorrhagic.

Hepar S: To hasten suppuration.

Iris Vers: Has aborted felons, when the fresh plant, all parts, has been bruised and bound on the part.

Lachesis: Gangrenous blisters; livid or mottled skin.

Nitric Acid: Felons with feeling of splinter.

Ranunculus B: Cuticular gangrene, with large blister.

Secale Cor: Senile, painless gangrene. Internal gangrene.

Tartar Emet: Sloughing phagedæna. Large pustules, breaking down and forming ulcers.

VIII. INSTRUMENTS AND APPLIANCES.

Selection of cases. Compact (Parker's) for general use. Handles, ebony. Care of instruments, washing, etc.

Pocket cases. Use, and necessities.

KNIVES: Catlins, Amputating, Scalpel, Bistouries, Tenotomes.

FORCEPS: Dissecting, Artery, Needle. Bone; Straight, Elbow, Curved, Right-angled, Gnawing.

SCISSORS: Straight, Curved, Elbow.

NEEDLES. PROBES.

SAWS: Amputating. Finger. Interosseous. Chain. Hey's. Trephine.

Special instruments, under proper heading.

STRAPS: Heat. Wet. Application and removal.

POULTICE: Objects and preparation.

LINT: Pledget, dossils, tent, pellets.

COMPRESSES: Ordinary, graduated, pyramidal, cribriform.

BANDAGING: Permanent, vide "FRACTURES." Temporary: Material, selvage, and seams. Single-head; Double-head. Scultetus, spica, recurrent. "Maltese cross."

IX. ANESTHESIA.

Deff.: Without feeling. Insensibility to pain, and suspension of motor and sensory phenomena.

HISTORY: 1. Nitrous oxide gas. 2. Sulphuric Ether. 3. Chloric Ether. 4. Chloroform. 5. Local anesthesia. 6. Bichloride of Methylene.

1. *Nitrous Oxide*: Sir Humphry Davy, 1800. (*Chemical Researches*, p. 556). Dr. Horace Wells, Conn., 1844. In Dentistry. ("Statement" Dr. Morton, p. 42).

2. *Sulphuric Ether*: CALEB BENTLEY MATHEWS, M. D., (*Homœopathist*!) in a pamphlet published 1824. (HELMUTH'S Surg., p. 73.) DR. SAM'L WOOLSTON, (*Med. and Surg. Rep.*,

May 27, 1870,) ether with morphine, for dentistry, 1836. Refers to ad' in Nat. Intelligencer for June, 1836. (HELMUTH, p. 72).

Prof. W. T. G. Morton, Boston, Mass., Sept. 30, 1846. Mass. Gen'l Hospital—(Vide "Statement," etc., p. 45).

3. *Chloric Ether*: Mr. Lawrence, St. Bartholomew Hosp., 1847. (SNOW. *Anesthetics*, p. 20).

4. *Chloroform*: Sir J. Y. Simpson, 1847, at suggestion of Mr. Waldie, Apoth. Hall, Liverpool. (SNOW. *Anesthetics*, also pamphlet by Sir J. Y. S.).

5. *Local Anesthesia*. Freezing mixture, salt and snow, very early period. Rhigolene spray, by Dr. Bigelow, Boston, about 1864. Ether spray, Carbolic acid.

6. *Bichloride of Methylene*: Dr. Spencer Wells, in ovariectomy. Little used in this country, or by other than Dr. Wells.

CHLOROFORM: Per-chloride of Formyl. Chlorine and formic acid. Sp. G. 1.480. Many methods of preparation; result the same.

Tests of Purity: SQUIBBS best. Neutral reaction. For oils: Sulph. ac., rubbing on hand, dropping on paper. For alcohol: Drop in water, milky if present. For ether: Inflammable.

Preparation of patient: Omit last meal, remove constriction from throat, etc., avoid pressure on chest or abdomen.

Administration: Napkin superior to an inhaler; about 1 dr. at a dose, 5 per cent. of air.

Symptoms: Three stages: 1st. Temporary irritation to mucous surfaces. 2. Nervous excitement. 3. Complete relaxation and insensibility.

Pathology: Suspension of nerve function, at centers, in certain order. 1st. Brain, failure in sensation, etc. 2d. Cerebro spinal axis, with perfect relaxation. Respiration and cardiac action remain intact.

Prefer to Ether: More speedy, continuous, and milder sequelæ. A stimulant, hence primary operations safely performed with it. (LISTER, *Holmes V.*, 482).

Dangers: *Coma*; Paralysis of brain; too rapidly given. *Syncope*: Paralysis of heart; an over-dose. *Asphyxia*: Want of atmospheric air.

Mortality: Since its introduction, more serious cases undertaken. Every year adds to number of grave accidents, extended and rapid travel, etc. *Apparent* increase in surgical death rate.

What is cause of death? (LISTER; *Holmes Surg. V.*, p. 480 et seq.).

1. Arrest of breathing, from careless administration, oftener than cardiac paralysis. Watch breathing more than pulse.

2. Over-dose, direct sedative; death from causes distinct from organic cardiac disease; in latter case, chloroform an element of safety.

3. From insufficient anæsthesia, and consequent intensity of shock. Most fatal cases, trivial operations, dentistry, etc. Shock produces, through vagus and sympathetic, cardiac paralysis. In heart diseases, produce full anæsthesia as a means of protection.

Narcosis: Suspend administration; lower the head; seize tongue and draw it forcibly out; tickling fauces: Faradism: Amyl. nitrate: Cold water: vide "*asphyxia*."

Sequelæ: Vomiting: Headache: Sleepless. Encourage sleep.

SULPHURIC ETHER: Formula—Alcohol, o jv; sulph. acid, o j; potassa, dr. vj; aqua dis. f oz. iij. Distill and re-distill, until anhydrous, Sp. G. 0.732.

Preparation of patient as in chloroform. Perfect safety; needs no air, particularly. Symptoms the same. Longer in coming on. *Sequelæ* more troublesome, *Ipec.*, for the vomiting. *Nux V.*, for the headaché.

OTHER AGENTS: Of doubtful utility; seldom employed.

A. C. E. 1. 2. 3. HARLEY'S formulæ in uræmia.

X. SHOCK AND TRAUMATISM.

SHOCK: After injury; nervous depression; physical prostration.

Symptoms: Face pale; hands and feet cold; clammy perspiration, often only on the head, face, or chest; relaxed sphincters, in extreme cases; *pulse* small, weak, fluttering; mental disturbance shown in face and incoherent speech. Intensity, usually, dependant upon extent of injury; at other times quite the reverse. Shock alone, sometimes kill; e. g. death on the gallows. Bad cases: Appearance of collapse or great loss of blood.

Diminished Temperature: Fall of more than one degree is ominous. *Wagstaff*, cases of operation fatal fall .3.7; not fatal 0.3. (HELMUTH, p. 573).

Primary or Immediate—Secondary or Remote. Rally well; days, or weeks after worst symptoms of shock; often fatal; persons of strong constitutions, vigorous minds, disguise or repress it, until weakened by confinement, etc., break down all at once. Treat all causes from the beginning, so as to ward off the shock. No lesion to account for death. Case of *Prof. Gross*. Died 6th or 7th day.—(*Med. Chir. Rev. V.*, 949).

Operation during shock. Civil practice, secondary; military practice, primary. Intermediate bad in either. Military, more cases of remote shock.

Treatment: 1. Moral. 2. Medicinal. *Moral*, reassuring words, or scolding. Caution in nervous cases.

Medicinal: No stimulants, except rarely.

Remedies: Arnica. Wants head low; diarrhœa; dizzy with nausea.

Camph.: Great coldness with hot breath; hands and feet tremble on raising them; tongue trembles.

Opium: Coma. Blue face; rouses when spoken to loudly, for a moment; stertor.

Veratr: Cold as ice, breath cold; weakness great; distorted face; terror. Other remedies may be needed, but rarely.

TRAUMATIC FEVER: Syn., Surgical fever. Some authors confound it with pyæmia or septic poisoning. Febrile reaction from shock. Any degree of intensity, even of Typhoid character, depending upon condition of the patient. In private practice of little moment.

TRAUMATIC DELIRIUM:

May accompany fever or not.

1. Co-existent with shock, of a low, muttering character; apathy. More violent as reaction comes on. 2. With reaction, mild or otherwise as fever is high or low.

First form: Nervous, excitable persons, cachectic or broken down, or drunkards. In drunkards, resembles mania-potu, and a very bad symptom. *Second form*: The most common and of less moment.

TREATMENT: As in SHOCK, also the following:

Acon., Lamentations, anguish, despair; thinks is going to die; fainting on rising up.

Bell., Shining, sparkling eyes; red face; beating arteries; merry; melancholly; furious; *tries to escape*; wants head high; burning heat with moisture or steaming heat.

Bry., Delirium about days business; faint and sick sitting up; dark, bloated face.

Cup. ac., Absent minded; staring; fixed, sunken eyes; cold sweat; distorted, pale, deathly face.

Hell., Taciturn, sighing, pale face; cannot think; general sweat.

Hyos., Indomitable rage; wants to go naked; red, sparkling, staring, distorted eyes; blue face.

Ign., Quarrelsome; laughing and crying almost in the same breath; impatient.

Lach., Sad; loathing of life; suspicious and peevish; moaning and complaining; skin shriveled and lived; nose, ears and forehead cold.

Stram., Furious rage; bites; talkative; convulsions; swollen red face; fear; staring, somnolent eyes; spasms from light or glistening objects.

XI. INJURIES OF SOFT PARTS.

1. CONTUSIONS. 2. WOUNDS. 3. SURGICAL INCISION.
CONTUSIONS. *Syn.*, Bruise : Pressure between two blunt bodies, a squeeze. Shock. *Pain* : Nerve injury and stretching from swelling. *Swelling* : Effusion of serum or blood. *Discolored* (ecchymosis)—effused blood. Three degrees : 1. Small subcutaneous lesion and serous effusion. 2. Rupture of vessels, large or small, and some destruction of tissue. 3. Pulpification, subcutaneous, without lesion of integument. Injuries to nerves may cause paralysis, and rupture of arteries may endanger life or limb. Terminations.—Resolution ; resorption ; suppuration ; ulceration ; gangrene and neo-plasma.

TREATMENT : No incision.

REMEDIES : May be used locally.

Arnica : In nearly all cases. Hæmorrhagic effusions preponderates over serous. Swelling firm.

Conium : Serous effusions preponderates. Boggy swelling, or hard and heavy, like a stone.

Hammamelis : Hæmorrhagic effusion largely ; the parts look like a bladder, soft and fluctuating.

WOUNDS : Solution of continuity ; separation of parts, with cutting, bruising, piercing, or tearing weapons or instruments. Six forms or varieties : 1. Incised. 2. Lacerated. 3. Contused. 4. Punctured. 5. Poisoned. 6. Gun-shot. (7. Subcutaneous.)

INCISED : Caused by sharp, cutting instruments. Importance, on extent, and structures implicated. *Simple and Complicated.*

Special Phenomena : *Gaping*, depends upon direction of wounds in relation to direction of fibres. *Hæmorrhage* usually free. *Pain* : Smarting, aching, or throbbing, to which succeeds a simple stiffness.

TREATMENT :

Arrest of Hæmorrhage.

1. *Compression* : by tourniquet, Esmarch's bandage, compressors, (digital or mechanical), flexion, accupresure, spanish windlass.

2. *Occlusion* : Ligatures, (silk or cat-gut,) in continuity or at cut end. Torsion.

3. *Styptics* : Per sulph. Ferri., Erigeron., Sulph. cupric.

Ensure good scar ; cleansing ; no rubbing ; closing ; coaptation.

Sutures : Interrupted ; Continuous ; Quilled ; Wire ; Hair-lip-pins. *Straps* : Retained as long as useful. No lotions, salves, or water constantly. *Staph.* : for first dressing, and all subsequent dressing. Internally also.

LACERATED : *Torn*, as by belting of machinery, etc. Hæmorrhage usually insignificant. Ex.: arm torn out. Some anæsthesia, for a time, pain moderate; tetanus; secondary hæmorrhage; amputation.

TREATMENT : Same as incised, but never convert into incised or cut off points or ragged portions. Use *Calendula* in same manner as above. *Hyperic perf.* for soreness.

CONTUSED : Blunt instrument; contusion of fourth degree, with cutaneous wound added. Hæmorrhage moderate, as in "lacerated." Anesthesia, then pain, aching. Sloughing of edges. Extensive, as railroad injuries, much shock.

First dressing, adhesive strips only. Second, suture, as in other cases.

Arnica, typical remedy.

PUNCTURED : Stab: sharp point, dull edge. Dangerous, when large cavity opened. Tetanus frequent in all cases. Blunt instrument, as nail, more danger of tetanus than when sharp, as sword, awl, bayonet, etc. PAGET. (HOLMES, Surg. I., 646) says: Fibres crushed, purulent discharge, death of tissues, septic absorption. Little hæmorrhage. Pain, severe; aching.

TREATMENT : Sucking the wound; removes foreign material, and approximates the sides. When large, tents, to heal from the bottom. When small, collodion, to seal up. Never enlarge the opening.

Led Pal.: Best remedy; extreme coldness.

Hyperic: Soreness.

Stram.: Jerking of muscles.

White-bean. (A. M. Cushing, Med. Inv., XI., 184).

POISONED : Any variety, usually punctured, with introduction of venom or poison. Weapons: Bites and stings, rabid and poisonous animals and reptiles.

Symptoms : Depends upon agent. Snake or animal poisons, disorganization of the blood. Other agents peculiar symptoms. In general, swelling, discoloration, pain, and some alteration in blood. Mental symptoms vary with agent.

TREATMENT : In all varieties, sucking a useful procedure.

Insects and *Bee stings*: Swelling, smarting, and redness. Use Ammo., Apis., Mud.

Scorpions and *Centipedes*: Tobacco locally.

Snake bites: Some rapid; some slow. Time of year to be considered; also distance of spring and part bitten. Symptoms vary. Usually swelling, discoloration, mental aberration, and nervous excitement. Sloughing, secondarily.

HIGGINS (*Ophidians*): Gall of serpent 1*. Heat, direct or radiated. Excision. Alcohol? Ligature.

Hydrophobia: Real or imaginary? Symptoms: Generally after cicatrization. Shooting pains premonitory. 1. Muscular.

2. Hyperesthesia. 3. Mental agitation. Pain on swallowing, particularly fluids, "catching" in breathing. All senses acute; sensitiveness to contact and drafts of air. Mental agitation, biting, frenzy, tetanic spasms, froth at the mouth.

TREATMENT: Prophylactic, as well as curative. Avoid currents of air, running about and noise. Also sight of liquids.

Bell: Preëminently fearful.

Hyos: Chiefly combative.

Stram.: Continuousness.

Lach.: On being touched.

Xanthium Spin.: Before frenzy. (Gryzmal, Kriva. *Hahn M.*, XII., p. 530.)

Hydrophobic cases, frequently cured; always a doubt about etiology in such cases.

Dissecting wounds: Post mortem, soon after death. Peculiar poison, not specific inoculation; or pyæmia.

Sucking, heat, etc., as needed. Strong nitric acid. *Ars.*, main remedy, with reference to septic condition.

GUN-SHOT: Literally from any explosive forces. Practically missiles from fire-arms. Injury modified by (a) *Form of missile*. 1. Spherical. 2. Conical. 3. Irregular. Direct shot, direct from gun, produces compound fracture. *Indirect*, glancing, or after passing through other objects, simple fracture often.

Pistol balls: Shot; Wadding; Gun-caps; simple powder.

(b) *Degree of Velocity*: More rapid motion, more penetration; less motion, more wide-spread destruction.

Symptoms: As modified above. Shock, according to circumstances. Pain, tissues involved. Bleeding, secondary or primary. Secondary from sloughing of cut ends of vessels, or continuity from bruise. Lodgment of ball, depends upon velocity. Wound of entrance, edges inverted and margins either devitalized or burnt. Sometimes triangular flaps. Wound of exit, edges everted, or fat pushed out. When high speed wound of entrance smaller than missile; of exit larger. Slow speed, of entrance larger than ball and discolored; of exit, large ragged.

Ball split: deflected; fall out. Constitutional symptoms severe; pus profuse; much sloughing.

Causes of death: *Immediate*, Wounding of blood vessels, nerve centers, profound shock, wounding of vital organs. *Remote*, Pyæmia, tetanus, hectic, erysipelas. Tenacity of life.

TREATMENT: Shock (*vide* article "Shock"). Hæmorrhage, precautionary. Probing, finger or Nelaton's probe: caution—Extraction forceps, Thomassin's, or dressing. By counter-puncture. Hermetically seal.

Remedies: As the symptoms arise.

SURGICAL INCISIONS: Edge of knife away from skin. Always incised. Forms: Linear, crucial, elliptical, crescentic. Transfixion. U. H. T., etc.

HEALING OF WOUNDS.

Largely relegated to Histology. Remedies much assist process. Open wounds, nucleated cells. Subcutaneous nucleated blastema; fibres. Four methods.

1. Immediate union. 2. First intention, or primary union. 3. Second intention, or granulation. 4. Under a scab. PAGET adds: 5. Union of two granulating surfaces. (Holmes, I, 32.)

1. *Immediate Union*. Exact coaptation, clean cuts, immediate adhesion, no plasma thrown out or needed. "Process of negations."

2. *First Intention*. Period of rest. Hyperæmia (not Inflammation); effusion of lymph, ceasing when enough is obtained. Blood retards. How disposed of: Absorbed; ejected; pus. Inflammation retards or prevents union. Appearance of lymph to the eye. None in the substance of part, only on the cut surface. Vascularity, loops form, and unite. Time required in process dependent upon tissue and extent of wound.

3. *Second Intention*. Wounds left open. Whitish film, full of lymphoid corpuscles. Blood-vessels project into points of exudation, which become ruddy granulations. Granulations (min. anat.), lymphoid cells heaped together without regularity. Little, if any, intercellular substance. Blood-vessels end in loops on apex of granulations. Healthy process, profuse laudable pus. Any defect indicated by morbid character of pus.

4. *Under a Scab*. Most natural form; almost universal in animals. Difficult to excite or study in man. Crust formed, inspissated lymph and blood coagula. Integument forms without granulation. Process similar to third form, but less pus. Little contraction, as no granulations. Formation of connective tissue, which in time takes on the characteristics of the tissue of the part. Ultimately, sometimes in years, scar disappears entirely, and deep attachments become also loosened. Healing sometimes fails, due to disease, old age, anæmia from hemorrhages. Sometimes takes on ulceration. Scars may be weak, depressed, contracting, thick and elevated. (*Vide* Am. Hom. Obs. XIV, p. 297.) May be dissected out in bad cases.

Remedies: Aid process. e. g.: *Arn.*, absorption of blood. *Led.*, or *Hyperic.*, corrects innervation. *Calend.*, modifies pus genesis. *Staph.*, lessens or prevents inflammation.

XII. EFFECTS OF HEAT AND COLD.

HEAT: Destroys tissue, never revitalized. *Burns*, dry heat; *Scalds*, moist heat. *Pain* most intense. *Indications*: Healing, prevent deformity, modify or remove visceral lesions, support strength, etc. *Effects*: In rising scale from water to molten metals.

Five degrees : To be recognized, to inaugurate appropriate treatment :

1. Simple inflammation, or erythema. Sometimes formidable, from extensive surface, as flashing from gases or explosions. Shock ; brain lesions from serous effusion, to relieve vascular excitement.

Urtica Urens., relieves pain. ' *Nit. Silver.*, strong solution, painted on, relieves pain instantly.

2. *Blistering of Skin* : Vessels relieved, by pouring out serum. Never open blister ; protect from injury, and air. Pain as above.

3. *Charring of Skin* : Certain sloughing. Pain greater when not extending through whole substance of skin. Visceral lesions common. Hasten slough ; *Calend.* to ulcer. Pain, etc., as above.

4. *Charring of Skin and Soft Parts* : Aggravation of above.

5. *Complete Carbonization of Whole Part* : Rarely calls for treatment, on account of fatality, unless small limb. Amputation, early.

Causes : Gaseous, or other explosions ; sun heat ; molten metals ; spontaneous (?) combustion.

Symptoms : Three stages : 1st. *Collapse* : Pain, shock, heat, then chilliness, quick pulse, thirst and dry mouth. 2d. *Reaction* : Inflammatory ; constipation, vomiting, diarrhea, bloody. Duodenal ulceration. Sloughing ; bleeding. 3d. *Exhaustion* : Local conditions prominent. Suddenly fatal. Intestinal lesions.

Cause of Death : Shock ; exhaustion ; pyæmia ; erysipelas ; tetanus ; cerebral, thoracic or abdominal complications.

Prognosis : Extent, reaction, habit of patient, age, locality.

Scalds : As burns ; devitalization, without charring.

TREATMENT : Pain, as above. Dressings, essential ; light, exclusion of air, unirritating ; chalk, or flour, and white of egg. Care in removal. Carb. soda., white lead ; linseed oil, and lime water, etc. Scarring ; results, and treatment.

COLD :

Similar to heat. Effects same, except 5th degree. Parts of low vascularity. Sudden cold ; ecchymosis. Gradual cold ; first redness, then white. Dry cold, less severe. Moist cold, more speedy in effects.

Frost-Bite : Immediate effects. May be followed by sloughing, or ulceration. Tingling, weight, numbness, then loss of sensibility and color. Treat in open air, or unheated room. Cover with snow, until parts are pliable ; then friction with snow, cold water. Pain on reaction, *Carbo. Veg.*, or *Arsen.* Reaction hastened, strong black coffee. Gangrene developed, amputation early.

Chilblains, (Pernio) : Secondary, chronic inflammation, itch-

ing, burning, stinging, in warm, moist weather. *Mur. Ac.*, topically, in recent cases. *Puls.*, *Fragaria Vesca.*, Worse from warmth. Chronic cases: *Agaric.*, *Ant c.*, *Apis.*, *Ars.*, *Rhus.*, *Sulph.* (Compare "*Asphyxia.*")

XIII. ASPHYXIA.

Asphyxia, "without pulse": Heart beats long after respiration ceases. *Apnea*, "without breath." Difficulty in suspending breathing. Apparent death: want of oxygen, as well as obstructed respiration.

Causes: (HOLMES V. 887.) 1. Mechanical. (a) Accident. External and Internal. (b) Disease, Ext. and Int. 2. Absence of oxygen. 3. Inhalation of toxic gases—chemical effect added.

Symptoms: *Chest*, fullness, oppression.

Head: Fullness, giddiness, ringing in the ears, flashes of light. Dreams, then coma and convulsions.

Heart: First accelerated, then slower and labored. Between last inspiration and cessation of pulsations, from two to four minutes.

Face: Anxious. Eyes protruding and staring, blue lips, sanguinolent or frothy mucus.

Sphincters: Relaxed; involuntary micturition and defæcation. Also emissions of semen, with or without erections. Variations with reference to cause. *Diagnosis* usually easy from history, but attempts to deceive frequent.

Post mortem: *External*: Lips, blue, frothy mucus; (also in epilepsy and heart-disease).

Tongue: Swollen, and bears marks of teeth.

Eyelids: Half open. Pupils dilated.

Countenance: Placid; at times livid.

Skin: Pale; at times discolored in spots. Cases of violence—marks of cord, finger marks, dislocation of tracheal cartilages, fracture of hyoid bone, laceration, etc. *Hanging*, when cut down within a few moments, no marks of rope. When hung *living*, after a half hour, deep furrow, looking somewhat seared. When dead, simple groove. *Rigor mortis* early.

Internal. Gases, opposite effect, e. g., sulph. hydro., muscles intense dirty black. Carbonic ac., vermilion.

Brain. Anæmia sooner or later when head has been raised from beginning; when low, venous engorgement.

Blood. Usually fluid. Right heart full; left either flaccid or filled with dark venous blood. Venous congestion in most of the viscera.

Lungs. In drowning, more or less water and floating substance. Rapidly absorbed, if some respiration particularly.

Prognosis good when respiration has not been suspended over ten minutes. Unfavorable after a longer time.

TREATMENT: 1. Alternate compression of abdomen and thorax, to imitate respiration. 2. SILVESTER'S method: *Inspiration*, arms brought up over the sides of the head, until the elbows nearly touch each other, slowly. *Expiration*, restoring them to the side of the chest, and gently pressing upon it. Head and shoulders to be elevated, to make thorax prominent. 3. MARSHALL HALL: Treat the patient *instantly, on the spot*. — Send for medical aid. — *To clear the throat*, place the patient gently on the face, with one *wrist* under the forehead. — *To excite respiration*, turn slightly on side, and apply irritant to the nostrils, and dash cold water on the face, previously rubbed briskly until it is warm. — If no success, replace the patient on his face. — Turn the body gently but completely *on the side, and a little beyond*, and then on the face, alternately; repeating fifteen times in a minute, *only*. — When the *prone* position is resumed make equable but efficient *pressure along the spine*. — Rub the limbs upwards, with *firm pressure*. — Replace the patient's wet clothing by dry. — Meantime, let cold water be *dashed* briskly on the surface previously rubbed dry and warm.

Remedies useless, owing to suspension of assimilation, etc.

Common cases. 1. *Newly born*. Any of the methods above mentioned. Alternate raising from and restoring to supine position. Electricity; bath, etc. 2. *Noxious gases*. Chloroform (vide *Anæsthesia*). Friction; fresh air. 3. *Strangulation*. Look for cause. Food in the glottis, etc. Tumors, fracture, etc. 4. *Drowning*. Nausea afterwards, *Ipec.* HERING and others. *Lach.* or *Solan. mam.* 5. *Cold*. Remove to unheated room; cover with snow, renewing it as it runs off (or cold water; salt and water had better be avoided). When the limbs become pliable remove all clothing, brisk friction. Pain on return of consciousness, *Carbo. veg* or *Ars.* Also give black coffee, without milk. 6. *Lightning*. Not apnoea properly but may be considered at this place. *Effects*: 1. No marks. 2. Vesication, burning or charring. 3. Tearing, etc. (HOLMES). Burying in the earth with face exposed and turned toward the sun, and cold water dashed in the face.

XIV. TUMORS.

A rising or prominence in some part of the body, developed and sustained by some morbid cause.

Solid: diffused; encysted. *Cystic*. Sessile or pedunculated. I. *Benign*. II. *Semi-malignant*; III. *Malignant*. *Anatomical characters*: *Benign*, homologous; *semi-malignant*, compound; *malignant*, heterologous. *Age*. *Growing*: Increase rapidly; innocent. *Mature*: Increase slower; innocent or semi-malignant. *Decline*: Increase slow or moderate; malignant. *Sex*:

Women present more cases, particularly about the genitals. Men, more *varieties*, particularly cutaneous.

Diagnosis : Tumors from hernia, and hypertrophy. Phantom tumors ; muscular contractions, disappear under chloroform. Pulsating tumors ; differentiate from aneurism.

Causes. 1. *External* : Effect of pressure as bursa ; deeper irritation, bone spiculæ, etc., excite morbid action ; largely hyper-nutrition. 2. *Internal* : Nervous influences ; repair and assimilation abnormalities. *Summary* : 1. Morbid cell production (quantity, quality or both), to repair loss. 2. From exaggeration of function. 3. Senile involution. *Recurrence* : 1. Continuity (benign). 2. Migration and transplantation (semi-malignant). 3. Constitutional reproduction (malignant).

TREATMENT : General and Instrumental. *Medicinal* to improve general condition, and cures tumors secondarily,

I. BENIGN TUMORS.

Syn. : Non-malignant ; innocent. Tendency to perfection of growth ; enduring. Usually single ; have been found secondary, by dispersion of fragment. Seldom recur : extinct action ; hyperplastic tendency may be re-excited by removal ; obscurity of symptoms mask secondary deposits ; portions of growing tissues remain. Do not implicate contiguous structures. Do not cause death, unless : 1. They compress important parts ; 2. From immense size and weight ; 3. Destroy bony parts ; 4. By degeneration (after frequent removal).

Structure : Normal elements in excess ; sort of tumor-like hypertrophy. Redundancy ; luxuriation.

Growth : Generally rapid, or irregular.

Types : 1. Cystic ; 2. Atheroma ; 3. Warts, (condyloma) ; 4. Sarcoma ; 5. Lipoma, (steatoma) ; 6. Adenoma ; 7. Fibrous ; 8. Glandular ; 9. Polypoid (myxoma).

1. *Cysts* : Simple ; multiple. Serous ; mucoid ; hæmatoma. *Natural* : Duct occluded, or hypersecretion of contents. Type, ranula. *Artificial* : Limiting membrane ; cystic or fluid degeneration. Type, some ovarian cysts.

All tissues : single or many ; size varying ; contents, any consistency or color ; grows rapidly, usually ; terminates, absorption, suppuration, ulceration, rupture and resorption.

TREATMENT : *Complete* extirpation ; scalping ; injection ; compression ; electrolysis.

Remedies : *Apis.*, *Arn.*, *Ars.*, *Bell.*, *Calc.*, *Coloc.*, *Graph.*, *Lyc.*, *Plat.*, *Podoph.*, *Puls.*, *Rhod.*, *Rhus.*, *Sep.*, *Sil.*, *Sulph.*

2. *Atheroma* : (*Sebaceous*). Natural cysts, mostly on head ; usually in numbers. Size, from marble to orange. Contents pappy, or all consistencies ; all colors. Grows slowly ; suddenly rapid. *Termination* : Suppuration ; large, intractable ulcer, high

rounded edges. Horns, anywhere—spiral, brownish color, any size; a few lines to nine inches.

Diagnosis: Fungus of cranium, of dura-mater, hernia cerebri, or other forms of tumor.

TREATMENT: Excision, *complete*.

Remedies: *Baryta C., Lach., Sil., Sep., Sulph.*

3. (a). *Warts*: *Syn.*: Verruca.

Hypertrophy of papillæ; hard, horny, soft. Lobulated (see warts). Epidermis dipping down between papillæ. Smooth, pedunculated, or sessile. Mostly on hands. Vascular, loops in apex. Pain absent, or trifling. Cause, unknown; local irritation. May develop epithelioma.

TREATMENT: Pedunculated, snipped off. Nitric ac. to base. Sessile, nitric or acetic ac. Galvano-cautery.

Remedies: Often cure: *Calc.*, once a day for a week, then *Thuja.*, topical as well.

Nit. ac., Soft warts; thin epidermis.

Sep., Large, hard warts.

Calc. c., Small, soft; great numbers.

(b). *Condyloma*: *Syn.*, Mucous tubercle. Hypertrophied papillæ; soft; mucous surfaces, or borders; genitals. Various forms, like warts. Vascular, no pain, or trifling. Causes, venereal, or dirty habits.

TREATMENT: Excision; *Écraseur*: Galvano-cautery.

Remedies: *Nit. ac.*, Elevated, cauliflower, exuberant; moist; sticking pain.

Phosph., Large numbers; dry. Vaginal.

Thuja., Fan-shaped; moist; suppurating; large. Other remedies: vide "*Warts*."

(c). *Cheloid*: (*Keloid*): Seems semi-malignant. Usually in cicatrices; often in ridges or welts. Vascular; pink color; fibrous. Recurs.

TREATMENT: Excision rarely successful.

Remedies: Vide "*warts*" and "*condyloma*."

4. *Sarcoma*: (ABERNETHY): Usually classed semi-malignant. "*Fleshy*," exaggeration of natural elements: rich in large cells, at times little connective tissue. Recurrent, increased malignancy. Consistency, depends upon region; usually firm, compressible, elastic; often an element in compound tumors. Found in every tissue, exaggerated morphology. Growth rapid, large size. Irregular form, often lobulated; smooth, circumscribed. Vascularity high, recurs, resembles finally encephaloid. *Cause*: Excited cell proliferation or genesis. Terminations, often fatal after frequent recurrence, from exhaustion and hæmorrhage. Ulceration and sloughing.

TREATMENT: Removal complete. Knife and cautery. ES-MARCH. (HOLMES I, 549. PAGET), *Bromide potass., large dose*. No cases reported Homœopathically.

Calc. ? Phos. ? Lyc. ? Sulph. ? Sil. ?

5. *Fatty*: (a) *Lipoma*: Fat cells in loose connective tissue, either encysted or diffused. Migratory; loose attachments; sometimes pendulous; irregular in form, smooth, symmetrical, or lobulated. Soft and doughy, or granular in feel. Growth slow. Found in any situation, even heart. Vascularity low. Pain absent, except from nerve pressure. Cause, *exciting*, pressure. *Predisposing*, alcohol, or corpulent habit.

Termination: Sometimes adhesion, inflammatory changes, degeneration, absorption. Little change for years.

TREATMENT: Excision preferable in all cases.

Remedies: BARYTA C., *Calc.*, *Sulph.*

(b) *Steatoma*: (*Cholesteatoma*): Dry, white fat, laminated, or cholesterine. Encysted; smooth; regular; firm feel. Any tissue, mostly sub-cutaneous. Small size, slow growth, low vascularity, pain insignificant or absent. *Termination* and TREATMENT as *Lipoma*.

6. *Adenoma*: Neo-plasma, resembling gland tissue, racemose glands; either in connection with, or separated from, and encapsulated. Solitary; symmetrical in form, and firm, dense, inelastic. Situated in any glandular region. Growth slow; small size. Vascularity considerable. Pain insignificant.

TREATMENT: Excision.

Remedies: *Graph.*, *Phytol.*, *Merc.*, *Calc. C.*, *Sulph.* Frequently cured with remedies.

7. *Fibrous*: Various forms, with a fibrous basis, as fibro-cellular, fibro-plastic, etc. Compound frequently. Single. Cut into, appears white, glistening, ligamentous. Irregularly rounded or oval; smooth, movable, firm. On mucous surfaces cauliflower-like. In most tissues; oftener uterus, antrum, and parotid regions. Growth slow, but may attain enormous size. Remain stationery for years, then grow rapidly. Vascularity considerable. Pain absent, or slight.

Termination: Disintegrate; cedematous; sloughing of skin; soften; ichoræmia; immense fungus; bleeding easily. Death from exhaustion: Sometimes cachexia: Calcareous degeneration: Cystic degeneration.

TREATMENT: Excision. *Écrasseur*. Galvano-cautery.

Remedies: *Calc. ph.*, *Teucri.*

8. *Glandular*: Any form of tumor implanted in, or growing from, glands. Lobular hypertrophy. Often semi-malignant.

9. *Polypi*: Mucous hypertrophy; sub-mucous fibroid; (myxoma). Pendulous; pedunculated; pear-shaped; sessile. Sometimes malignant. Rapid growth; large. Any mucous passage. High vascularity. Red or slate colored. Pain slight.

Termination: Sloughing; degeneration; very destructive to bones by absorption.

TREATMENT: Removal; evulsion; écrasseur; galvano cautery. Naso-pharyngeal: extensive operation. (HELMUTH, p. 66.)

II. SEMI-MALIGNANT.

Slower growth. Large size. Often painful. Frequently returns. Tendency to destroy life. May implicate near parts. Compound; or heterologous. *Structure*: Normal cellular elements; misplaced deposition. *Recurrence*: By transplantation; or remains of growing tissue. Each return more malignant.

Types: 1. *Fibro-plastic*. 2. *Recurring-fibroid*. 3. *Enchondroma*. 4. *Epithelioma*.

1. *Fibro-plastic*: *Syn.*: Myeloid. Commonly painless; elastic; smooth; young people, in connection with bones, at times in the interior. May not recur. *Section* shows translucent, shining, bluish-green, gray, or pink color. Dotted with brown or red spots. Succulent; fluid yellow. *Cell elements*: Like foetal cartilage. PAGET (p. 465). 1. Cells oval, lanceolate, elongated, angular, caudate, granular. Single nucleus and nucleoli. 2. Free nuclei assuming cell form. 3. Most peculiar: Large, round, flask-shaped cells, or masses of cells, or thin discs; granular, two to ten clear nuclei with nucleoli: All these in dimly granular substance. Malignancy in proportion to succulency.

Termination: Partially ossify; cystic degeneration; simulating colloid.

TREATMENT: Early and thorough extirpation.

Remedies: *Ars.*, *Bry.*, *Lach.*, *Merc.*, *Sil.*, *Sulph.*

2. *Recurring-fibroid*: In connection with bones, or close proximity thereto. Grow rapidly, large, painful. Externally appear like fatty tumors, but larger. Recent specimens fragile, lobulated; varying in color—white, drab, or pale yellow. *Cell elements*, oat-shaped, elongated, caudate, bifid termination. Developing into fibres. No cachexia, particularly when primary. Recurrence with increased malignancy.

Termination: Sloughing, exhaustion, death.

TREATMENT: When very large, amputation. Extirpation; knife and cautery.

Remedies: Very few cases: *Phos.*, *Calc.*, *Sil.*, *Graph.*

3. *Enchondroma*: *Syn.*, Cartilaginous. In connection with bones, particularly heads of long bones. Soft near the surface, but hard on deep pressure. Large, irregular, nodulated, sometimes elastic, not freely movable. *Cellular elements*, all grades from cartilage to fat, in cartilaginous stroma. Resembles cartilage of lower animals.

Termination: Cystic; calcareous osseous, or fatty, degeneration. Often two processes at the same time.

TREATMENT: Excision or amputation. *Sil.*, has cured several cases. *Calc.*, recommended empirically.

4. *Epithelioma* : Sometimes classed among malignant tumors. Firm, hard, sessile, or pedunculated. Any location, usually near or on mucous surfaces. Recurrence the rule. Internal proliferation of epithelium, displacing and absorbing intervening tissue. (FORCHHEIMER, N. A. Jour. XXIV, 337.) Closely packed epithelium.

Termination : Ulceration, exhaustion.

TREATMENT : Excision the rule.

Remedies : *Acet. ac.*, *Arg. nit.*, *Aur.*, *Chelid.*, *Puls.*, *Sulph.*, *Thuj.*

III. MALIGNANT.

Syn. : Cancer. Carcinoma. Moderately rapid growth, greater in some forms. Recurrence. Implicate contiguous parts. Destroy life. Produce cachexia.

Cell elements : Multiplicity, immature, disintegrated, and free nuclei.

Course : Mental depression ; gastric derangement ; mal-assimilation ; irregular cell-genesis. Production of tumors, or degeneration of existing growth.

Characteristics : Succulency ; excess of albumen ; simulating embryonic or lower animal tissue. Women ; middle aged or old persons.

Types : (Primary): 1. Scirrhus. 2. Encephaloid. (Secondary): 3. Colloid. 4. Melanosis.

1. *Scirrhus* : Mostly in mammary gland ; any glandular part. (1). Occult. (2). Open.

(1). *Occult* : Hard, craggy, incompressible, immovable. Slow growth. Single, or in numbers. Skin at first loose, later firmly attached, brown, brawny ; veins enlarged. Glandular infiltration. Lancinating pain on handling. Sometimes compound, particularly with encephaloid.

(2). *Open* : Softens, breaks down into foul, fœtid, rapidly destructive ulcer. Tough, greenish-gray slough. Increase of pain, almost constant.

Recent specimen, creaks under the knife ; looks like cartilage ; when dry, like horn. Very succulent and soft after removal. (WALSHE). Laminated, Fibrous lines running through it.

RECURRENCE : By secondary deposit. *Colloid* when visceral. *Scirrhus* when glandular. *Ulceration* when in cicatrix. *Secondary Ulceration* : Pink elevation, thin covering, abraded apex, form ulcers with tough, yellowish sloughs ; coalesce until whole scar broken down. Connection with phthisis. Duration of life.

Termination : Ulceration ; dispersion ; cachexia ; death. Occasionally, spontaneous cure by extrusion or resorption.

TREATMENT : Early thorough extirpation. No plasters or caustics. Injections of alcohol (SCHWALBE). Electrolysis ?

Remedies: Ars., Carbol. ac., Con., Carb. v., Graph., Lapis alb.

2. *Encephaloma: Syn., Fungous-Hæmatodes.* Any age; both sexes; even animals in general. Soft, compressible, rapid growth. Skin covered with tortuous veins; at first unattached, then adherent; changes color; gives way. Sloughing; enormous fungous granulations; terrible hæmorrhage. Rapid cachexia. Secondary deposits, sometimes scirrhus; stratified, tuberiform, or infiltrated. Oftener in eye, mammæ, ends of bones, and testes. *In the Eye:* Metallic lustre in fundus; canary colored tumor; absorption of contents; perforation of cornea, and usual characters. *Recent specimen:* Vascular, loose texture; stroma delicate fibres: to the eye like brain mass, or boiled potato. *Cell elements:* Caudate, fusiform, oat-shaped, nucleated, granular, compound, bifid termination.

Termination: Death from exhaustion, or cachexia.

TREATMENT: Sometimes amputation; rarely excision. Sharp spoon.

Remedies: Ars., Lach., Phos., Carbol. ac., Croc Sat., Crot hor.

3. *Colloid: Syn.: Gelatinous. Alveolar.* Rarely seen as an external tumor. In connection with scirrhus. Oftener secondary visceral deposit, stomach and ovary. May resemble compound cysts; cells filled jelly-like, semi-transparent, yellow substance, like honey. Tumor hard, small, rapid development.

Termination: Death from exhaustion.

TREATMENT: Rarely removed, unless in combination with other tumors.

Remedies: Ars., Carbo v., Carbol. ac.

4. *Melanosis:* Rarely as a tumor, part of other forms. Black substance, opaque, humid, unctuous: like a bronchial gland. From great density to inky fluid. Occurs (a) *Tuberiform:* Serous or adipose tissues; from millet seed to orange in size. (b) *Punctiform:* Minute points or dots in other tumors. (c) *Stratiform:* Diffused, like adventitious membrane.

Termination: Softens, disintegrates, eliminated. Spontaneous cure, rarely fatal.

TREATMENT: When practical, extirpation.

Remedies: Carbol. ac., Sang., Ars., Lach.

SUMMARY: Etiology made out?

Benign: Normal cells; simple redundancy.

Semi-Malignant: Normal cells, misplaced deposition.

Malignant: Disintegrated, immature, misplaced cells. All forms over-production.

Special forms of tumor, see 2d and 3d sections.

GENERAL REMEDY INDICATIONS:

Acetic ac., Reputed solvent for cancer cells. No records.

Apis., Cystic tumors: burning, stinging.

Arn., Mottled, ecchymosed appearance, with aching pains.

Arsen., Destructive secondary ulceration. Cachexia, with emaciation and burning pains.

Baryta c., Indolent, painless, hard, glandular, in old people, or drunkards.

Bell., Painful, inflamed.

Calc c., Strumous cases; takes cold easily; subject to indolent, glandular swelling; lax fibre, and sweats easily, when sleeping.

Carbol. ac., Based on anti-septic properties.

Coni., Stony hardness, with weight.

Crocus s., Hæmorrhagic, blood black, tar like, stringy.

Coloc., Ovarian cysts, with dysmennorrhœa; bilious vomiting; paroxysms of sharp, cutting pain.

Galium., Clinical testimony in cancer of tongue.

Graph., Sebaceous tumors, with much itching of neighboring skin, when warm.

Hydrast., Many cases of cancer reported. Pricking in part, on motion only.

Lachesis., Skin of part mottled; small ulcers about tumor, burning when touched.

Lapis alb., GRAUVOGL reports cases cured of scirrhus.

Mur. ac., Cancer of tongue (vide "mouth") with blue color of parts.

Nitric ac., Bone tumors, or other forms, in mercurialized subjects. Pricking pain.

Phosph., Encephaloma; when fungous.

Phytol., Glandular tumors, and lipoma reported cured.

Plat., Moral symptoms, haughty, etc., of first importance. Squeezing pain.

Puls., Cured sarcocele,

Silic., Semi-malignant and cancer; great itching of tumor.

Sulph., Completes cure, arrested when partly cured by other remedies.

Teucrium., Nasal fibroids.

PART SECOND.

SYSTEMIC DISEASES.

XV. NERVES.

NEURALGIA :

Irritation of nerve, functional; remittant or intermittant. When chronic may become neuritis, or softening, or sclerosis, but very rarely. Extensive lesion with little pain, or violent pain with no lesion.

Symptoms. 1. Primary. 2. Reflex.

Primary : Pain of all varieties; exaggerations of function. Principally motor nerves.

Reflex : Motor nerves; twitching, or even spasms. Modification of function. Vaso-motor; primarily pale skin, with chilliness. Secondarily, turgor, sweat, and increase of excretions according to location and severity.

TREATMENT : Almost entirely with remedies. Heat, cold or pressure allowable.

Remedies : *Acon.*, Early stages; acute; restless; much febrile excitement.

Apis., Burning, stinging; pale, puffy swelling.

Ars., Burning deep in part; felt while asleep; better from warmth.

Bell., Comes suddenly, and ceases suddenly; throbbing; better from pressure.

Bry., Pain expansive; dark color of skin; worse on least motion, yet can't keep still.

Bisth nitr., Excruciating pain relieved by cold and moving about.

Carbo v., Burning like a coal in the part; flatulency.

Cham., Wild and unruly; wants relief at once; hot sweat from pain.

Chin., Least touch aggravates; pale and prostrated after paroxysm. Periodical attacks.

Cedron., Unerring periodicity.

Coff., Unendurable pain ; uncontrollable even from slight pain. Cold water in mouth sometimes relieves.

Coloc., Sharp, cutting or lancinating ; the least motion bring on paroxysm.

Gels., Almost loss of control ; like chorea.

Hepar. Sulph., Better when part is well wrapped up.

Iris v., Pain attended by much nausea and vomiting of sweetish mucous.

Lyco., Perspires at every motion ; constricted feeling in part.

Merc., Sweats easily ; extends to periosteum. Worse in bed and in damp weather.

Mezer., Pains come like electric shocks with shuddering and chilliness.

Nux Vom., Tearing with numbness ; dull pain ; morose and irritable.

Plat., Boring, squeezing pain.

Puls., Pains better from cold, and worse from warmth ; worse in the evening.

Sepia., Jerking like electric shocks.

Spig., Acute pain, better from very strong pressure.

Zinc., Burning, quick stitches, and jerking ; worse from slightest touch.

NEURITIS :

Inflammation. Adults ; sanguineous robust subjects.

1. Acute. 2. Chronic. 3. Idiopathic. 4. Traumatic.

(1) *Acute* : Typical. Pain chief symptom ; continuous, or slightly intermittent ; excited by pressure ; relieved by pressure on paroximal side. Tearing, darting, lancinating, in course of nerve and branches. Climax and decline gradual. Remission indicates resolution or death of the nerve. More or less paralysis. Nerves swollen, like a cord. Sympathetic fever.

Seat, neurilemma and connective tissue between the bundles ; impaired nutrition. Color varies with vascularity, from violet to deep red.

Termination: Resolution. Adhesions. Softening. Hardening. Suppuration.

(2) *Chronic* : Same symptoms, less severity, more persistent, slower progression, paralysis often.

(3) *Idiopathic* : As above, from causes other than trauma, as cold, wet, suppressed secretions.

(4) *Traumatic* : Injuries of all kinds, particularly contusions or lacerations.

<i>Neuralgia</i>	{	Acute.	<i>Neuritis</i>	{	Chronic.
		Periodic.			Continuous.
		Remittent.			Intermittent.
		Irritative.			Inflammatory.

TREATMENT: Resection of nerve. Re-amputation.

REMEDIES. *Calend.*, In lacerated wounds.

Hyper., Great soreness and sensitiveness, from trauma.

Led. pal., Great coldness, subjective and objective

Alli. cep., Pains violent and continuous; neuralgia of the stump. [HELMUTH, STEPHEN'S *Clinics*, p. 103.]

Ruta. g., In nerves that have been stretched, as in sprains.

Stan., Pains reach climax slowly, and slowly recede; better from strong pressure against hard substance. (Vide "*Neuralgia.*")

NEUROMA: Syn., Painful tubercle.

Tumor of, or in connection with a nerve. Single or multiple. Painful. Vary in size. 1. Nerve tissue, true neuroma. 2. Neoplasma, either fibroid or fatty.

First: Rupture or a few fibres, which roll up and form nucleus. Form a bulbous extremity to divided nerves.

Second: Primarily fibrous, between the bundles separating the fibres, which become thicker in slow growth and thinner when rapid.

Pain greater when single. Mostly upper extremities. Women more liable. Worse from change of weather, pressure, etc.

Termination, Fatty degeneration and absorption; fibrous or fibroid tumor; paralysis; or even death.

TREATMENT: Excision. Exsection of nerve. Amputation.

Allium cepa., 5 gtt tr., four times a day, and onion poultice to part. [Vide Neuralgia and Neuritis.]

TETANUS:

Powerful spasmodic contraction of voluntary muscles, long-continued and uncontrolable. Tonic contractions with intermittent spasms. Trismus. Opisthotonos. Emprosthotonos. Pleurosthotonos. Idiopathic. Traumatic, Acute, Chronic.

Usually begins with Trismus, not always, nor always succeeded by other forms. Stiff jaw and tongue, back of neck; sometimes violent pains under the sternum. Difficult mastication and deglutition. Lower jaw fixed. Pain agonizing. Muscles hardened, particularly abdominal, like a board. Face pale, distorted. Pulse rapid, irregular; breathing labored and hurried during spasm. Spasms violent, throwing patient off the bed. Consciousness retained; senses morbidly acute; distress from dread of spasms. Opisthotonos quite frequent. Emprosthotonos rarely seen. Pleurosthotonos rare, oftener to right side. Trismus very constant.

Causes: (1) Predisposing; (2) Exciting.

(1) *Predisposing*. Age 10-30. Mostly men; changes of temperature; equatorial; negroes. (2) *Exciting causes* (a) *Periphe-*

ral; wounds and injuries, particularly punctured and lacerated. Exposure to damp or cold; to air in motion, whether hot or cold. (b) *Centric*: Verminous; foreign bodies in intestines; suppression of secretions.

Incubation from a few hours to many days. No constant lesion; occasionally some disorganization of spinal cord. Characteristic: continuity of contractions, gradual development, retention of consciousness.

Prognosis. *Favorable*, when very acute, rapid in development, and after the fifth day. *Unfavorable*, traumatic cases and short incubation.

Resembles Epilepsy, Rheumatism, Hydrophobia, Poisoning-

TREATMENT: Anesthesia. Avoidance of currents of air, noise, disturbance of patient, or holding him.

Remedies: *Centric.* *Bell.*, *Cicut.*, *Nux. V.*, *Gels.*, *Stram.*, *Verat.*, *Vir.*, *Peripheral.* *Acon.*, *Angust.*, *Hyperic.*

Acon., Premonitory stage, when throat feels contracted.

Angust., Pains terrific.

Bell.: Symptoms established at once.

Cicuta., Deadly paleness of face; cold face, hands and feet; foam at mouth; trembling after paroxysms.

Gels., Irritable; cannot be spoken to. Heat in head, fullness in face, and cold feet.

Hydroc ac., Cyanotic appearance.

Nux V., The typical drug.

Stram., The contractions are not so severe, but the clonic spasms are violent.

Veratr vir., Much used in tropical countries. Used in repeated doses until relaxation occurs.

PARALYSIS :

Generic term; loss of motion or sensation from nervous insufficiencies. *Paresis*: incomplete. *Hemiplegia*: one-sided, from cerebral lesion. *Paraplegia*: both sides from spinal lesion. Cerebral lesions, mental aberrations. Spinal lesions, mind unimpaired. *Causes.* Anything that deprives nerve of blood. Structural lesions in continuity or at point of origin. Six conditions. (RAUE. *Pathol.* p. 524.)

1. Anesthesia of sensitive nerves.

2. Loss of consciousness: e. g., sleep, coma.

3. Cerebral lesions.

4. Spinal ditto.

5. Ditto in continuity.

6. Anæmia of nerves.

TREATMENT: Spinal lesions requires long time, patience. Faradism.; Massage. Stretching the nerve. (NÜSSBAUM N. A. J. of HOM. XXV. p. 232.)

Remedies: Acon., Acute cases with formication.

Alum met., Cannot walk in the dark.

Anac., Loss or imbecility of mind.

Arn., Cerebral or spinal effusions.

Baryta c., General in old age, with palsy and loss of memory.

Bell., Spinal hyperæmia. Paralysis on one side, spasms on the other.

Cocc., In weak and nervous people, subject to fainting and palpitation of the heart.

Dulc., Part as cold as ice.

Ign., After grief or great mental emotions.

Nux V., In old age after fits of anger.

Olean., Long preceded by vertigo.

Picric ac., Progressive locomotor ataxia; limbs feel as if in an elastic bandage.

Plumb., Complete paralysis with atrophy.

Secale., Rapid emaciation, relaxation of sphincters.

Stram., Paralysis after spasms. Paralysis on one side and spasms on the other.

INJURIES:

Results depend on size and importance of the nerve.

(1) *Contusions*. May cause neuritis, extravasation, laceration, (partial or complete). Secondary atrophy.

(2) *Compression* (or stretching) may cause atrophy of muscles and paralysis; numbness; pain severe.

(3) *Laceration*, caused by reducing old fractures or dislocations; trauma generally. Followed by neuritis neuroma, or cure without complication.

(4) *Ligature*. Causes great pain, neuritis, tetanus or death.

(5) *Division*. Paralysis, temporary or permanent; ultimate incomplete reunion. Large nerves may be divided, and function may be continued by nerve on opposite side. Incomplete division more disastrous.

Primary results of nerve lesions. (HOLMES IV., p. 173. CLARKE). 1. Lowered temperature. 2. Cutaneous eruptions. 3. Secretory changes. 4. Periodical swelling of joints. 5. Atrophy and contractions of muscles, with distortion of joints.

Remote consequences. (HOLMES IV., p. 184 BROWN-SEQUARD). 1. Epilepsy. 2. Tetanus. 3. Hysteria. 4. Catalepsy. 5. Progressive Paralysis. 6. Anesthesia. 7. Loss or modification of other special senses.

TREATMENT: As in wounds in soft parts.

Remedies., *Arn.*, *Hyperic.*, *Led.*

XVI. BLOOD VESSELS.

PHLEBITIS :

Inflammation of veins. Some authors state lining membranes of veins rarely inflame; and never suppurates. (HOLMES III., p. 359). All tissues inflame, *ergo* suppurate.

Veins rarely originate morbid process. *Causes* 1. Predisposing. 2. Exciting. (1.) Enfeebled general condition; increase of fibrin; thrombus. (2.) Wounds, contusion, ligatures. Insignificant usually. (1.) Adhesive. (2.) Diffused.

(1.) *Adhesive*. Usually traumatic; destruction from lymph or thrombus; suppuration. Hard, knotty swelling at the valves; skin dark; stiffness of limb, not much pain; tenderness; œdema early.

Termination. Resolution, obliteration, perforation, abscess, or pyæmia.

(2.) *Diffused*: Phlegmonous inflammation. Secondary. Pyæmia. *In general*: Vein thickens, feels like a cord; painful on pressure. When *deep veins*, limb flexed, swollen, pain on extension; hot, dry skin; œdema. Inflammation, any degree. Oftener superficial veins.

TREATMENT: (See "*Pyæmia*,") *Acon.*, *Bell.*, *Merc.*, *Puls.*, *Rhus*.

VARIX :

Irregular enlargement of vein; pathological or physiological. Enlargement in all directions, tortuous. Indicates atony; in some cases hyperæmia. *Causes*: Venous obstructions; distension and destruction of valves. Superficial veins, from lack of support; as choroid, mesentery, spermatic cord, etc.

Physiological: (ANDRAL. Path.' Soc.' Tr.' II, p. 3. 1831.) Simple dilatation, tortuous or not. *Pathological*: Enlargement; thinning of walls. Enlargement, with thickening. Enlargement at the valves, without elongation; minute orifices, with transudation. Beginning at point of union of deep and superficial veins; distal pressure distends superficial branch. Effect, separation of valves; become either adherent or disappear. Chronic cases, walls and integument thin. Blood in pouches generally fluid; if coagulates, may cause pyæmia or obliteration.

Termination: Extravasation; hæmatoma; ulceration; alarming hæmorrhage. Little pain, unless from pressure; little œdema.

TREATMENT: Remove cause; bandage; ligation; obliteration; galvanism.

Remedies: *Ham.*, *Aloes*, *Nux V.*, *Petr.*, *Sulph.*

ARTERITIS :

Inflammation of arteries. Traumatic. Idiopathic. Adhesive. Diffusive.

(1). *Adhesive (limited)*: Chronic. Thickening; lymphatic effusion; embolism; obliteration. Resorption; collateral circulation; gangrene.

(2). *Diffuse*: Acute. Erysipeloid; wide extent. Resolution; embolism; gangrene.

Pain; tenderness on pressure; coldness; pulsation in jerks; embolism; pulsations cease slowly or rapidly; lower temperature; sometimes sudden pain; gangrene.

TREATMENT: For embolus, friction, heat. *Acon.*, *Ars.*, *Carb. v.*, *Merc.*, *Bell.*

FATTY DEGENERATION :

Rarely diagnosed in life. Usually, old and feeble persons. With aneurism.

Inner coat, white streaks, becoming patches. *Middle coat*, cheesy and soft. *Outer coat*, becomes *thicker*, finally degenerating.

Results: Gangrene, embolism, etc.

TREATMENT: Constitutional, symptomatic. *Baryta. c.*

CALCIFICATION (erroneously, *ossification*):

Obscure diagnosis: middle life, pulse weak but not irregular; arcus-senilis, ætheromatous deposits, enlargement of prostate. Coronary arteries most frequent. Sometimes in free granules; again the whole artery an unyielding tube. Phosphate of lime. Senile gangrene; sloughing; ulceration; or functional disturbances. No cases of cure, probably from obscure diagnosis.

ANEURISM :

A sac or cyst, in connection and communicating with an artery. 1. *True*: composed of coats of vessel. 2. *False*: the sac communicating with vessel. Fusiform or Tubular. Sacculated. Dissecting.

(1) *Fusiform*: Equal dilation of all coats from atony; aorta; no necessary elongation. Cause, local inflammation, etc. *Outer coat*, thickened. *Middle*, thin. *Inner*, studded with deposits. Coagula laminated.

(2) *Sacculated*: Tumor-like; most common form. (a) All the coats distended. (b) Middle through opening in artery. (c) Inner through opening in others. (d) Outer through opening in middle and inner, with fusion of the torn edges.

Causes: Trauma; ulceration; secondary from other forms.

Results : Laminated coagula ; rupture, accidental or spontaneous ; forms false variety ; destruction of bone ; sometimes spontaneous cure.

(3) *Dissecting* : Internal coat give way, is dissected up for some distance, and (a) opens into vessel lower down ; septum disappearing, and forms fusiform variety. (b) Does not open again into vessel, and forms sacculated variety.

Prognosis : Unfavorable ; constant menace to life.

Diagnosis : Tumor over an artery, grows rapidly ; pulsating, purring, whistling, or blowing sound. Painful on pressure. Symptoms dependent on situation, e. g., deep or superficial. Pulsation dependent on extent of coagulation. Differentiation between tumor and abscess. Any artery, when traumatic. Large vessels of heart, when idiopathic.

Aneurism by Anastomosis (English syn. : *cirsoid aneurism*) : Analogous to varix in veins.

Vessels thin, pouched and tortuous, but arterial pulsation. *Superficial* : Skin red, dark red ; elastic or doughy feel ; higher temperature ; distance from large trunks. Large vessels running in from various directions. On head mostly. Blood expelled, returns by expansive beat. More of a thrill than a pulsation. Sound, blowing, loud or soft.

(b) *Aneurismal varix* : Communication between varicose vein and cirsoid aneurism. Characters blended.

TREATMENT : Object to cause coagulation. (1) *Ligature* : Distal. Proximal. Double, on healthy coats. (2) *Pressure* : Continuous, (mechanical or digital). Remittent. Esmarch's bandage (*Louisville Med. News*, III., 12. IV., 226).

MALGAIGNE, introduced hair to cause coagula. LANGENBACH, injection of ergot subcutaneously. Per-sulph. ferri for like purpose. Galvanism (?).

Remedies : To restore tonicity.

Lycop., HUGHES (*Pharmacodynamics*), one case cured ; other relieved.

Gallie ac., HELMUTH (*Clinics*, STEPHENS, p. 153). Case cured. Causes coagulation, but induces neuralgia when given for lengthened period.

Secale., Number of cases reported.

NÆVUS. Syn.. Mother's or birth-mark.

Sometimes erectile or vascular tumors. Local hypertrophy of vascular tissue. Congenital mostly. Oftener on face or neck ; little elevation. Capillary. Venous. Arterial.

(1) *Capillary* : Increased size and number of capillaries. More or less circular, flat, bright red, slightly elevated ; warmer than surrounding parts ; no pulsation. Smart bleeding when wounded.

(2) *Arterial*: Aneurism by anastomosis: firm, bright red, hot, pulsating. Dangerous bleeding, when cut.

(3) *Venous*: Always congenital. Doughy, compressible, dark color. Sometimes aneurismal varix. Little increase heat; no pulsation. Gush of blood, suddenly ceasing, when cut.

Results: Ulceration; coagulation(?); sloughing(?); spontaneous cure, very seldom.

TREATMENT: Strangulation; Pressure; Cautey; Ligature of main vessel; Galvanism.

Remedies: *Acet. ac.*, *Ars.*, *Borax.*, *Iod.*, *Lyc.*, *Sil.*, *Sep.*, *Sulph.*, *Thuja*.

WOUNDS OF BLOOD VESSELS.

1. *Veins*: Hæmorrhage. Syncope. Pressure; elevation of limb. Styptics. Ligature, but seldom. Compression, sparingly used. *Acupressure*. (SIMPSON.) 1. Integument, over vessel, through skin. 2. Parallel to vessel, and through integument. 3. Under the vessel, and figure of eight.

Dangers: From bleeding, repeated syncope. From pressure, devitalization. From cautey, secondary bleeding. From ligature, phlebitis.

2. *Arteries*: Hæmorrhage. Secondary, from bruising, or sloughing. (Vide "*Wounds*").

Ligature: Operation: Expose sheath, on director through each layer. Open sheath; small opening.

Special Vessels: Mark course, ink, or mentally.

Axillary: V. inside. N outside. Centre, and little to front of space.

Brachial: V inside. N outside upper half, inside lower half. Inner edge of biceps.

Carotid: *Common*. V outside. N between V and A. Inner edge sterno mastoid.

Carotid: *External*. V and N in front. Same line continued to ramus; vessel *underneath* the muscle.

Carotid: *Internal*. V and N behind. Same line, vessel deep, behind external branch.

Dorsalis pedis: V and N outside. Inner edge first metatarsal bone.

Facial: Tortuous. V changes frequently. N crosses. *In the neck*, midway between angle of jaw and hyoid bone. *On jaw*: Incision anterior edge of masseter.

Femoral: V inside. N outside. Center of Pouparts ligament, inner edge of patela.

Innominate: V and N to right. Triangle from inner end of clavicle, out two inches. Ant. border sterno mastoid, two inches. Vessel found readily, very deep, on raising this flap.

Iliac: Common. Right side, V inside. Left side; more underneath. *In front:* Line midway from umbilicus to pubis, to middle of Poupart's ligament. *Behind:* Preferable. From point of last floating rib to crista ilii.

Iliac: External or Internal, same line, commencing two inches lower on linea alba.

Lingual: V underneath. Crosses greater horn of hyoid.

Occipital: V and N to left. Tortuous. Line expose vessel, carried two inches, in same line, from post' edge of sterno mastoid.

Popliteal: V outside. N inside. Center of space.

Peroneal: V and N both inside. Inner border of the fibula.

Plantar: External. N inside. Inner maleolus, to head of metatarsal bone of the little toe.

Plantar: Internal. N inside. One line from center of heel, to tubercle of scaphoid bone. Another from inner-malleolus, to center of web between two first toes. Shorter triangle mark course of vessel.

Radial: V on both sides. N outside for upper half; under lower half. Inner edge of radius.

Sub clavian: V below. Lower edge of clavicle.

Sup. Thyroid: V and N cross and recross. An inch above and behind thyroid cartilage, down and back, to lower edge of cartilage.

Temporal: Vertical, half inch in front of ear.

Tibial: Anterior. V. both sides, N. outside, outer edge of the tibia.

Tibial: Posterior. V. both sides. N. inside. Center of popliteal space, to internal malleolus. Under gastrocnemius and soleus.

Ulnar: V. both sides. N. inside. Base of fourth metatarsal bone, to inner condyle of humerus.

XVII. MUSCLES AND TENDONS.

RUPTURE OF MUSCLES AND TENDONS.

1. *Partial:* Difficult to detect. Pain, particularly on motion. Swelling, either effusion or extravasation. Impaired function. 2. *Complete:* Deformity: wide retraction of extremities, early; later, effusion, etc., masks the diagnosis. Loss of power, pain, and shock. Rare, as bone will oftener yield before muscle. *Cause,* a sudden, unexpected, or forcible motion.

TREATMENT: Passive motion; position. *Acon., Arn., Calend.*

STRAIN :

Violent twisting of joint, or part ; injury confined to muscles and tendons. (Not *sprain*), oftener in ginglymoid joints. Blood-vessels occasionally ruptured. Pain, swelling, discoloration, varies.

TREATMENT : Alternate immersion in hot and cold water. Rubber bandage. *Rhus.*, in most cases ; *Arn.*, when much ecchymosis.

CONTRACTIONS AND TALIPES.

(1) *Transitory*. Spasmodic, from centric or peripheral irritation ; becoming (2) *Permanent*, from local inflammation, with plastic effusion. From accident, with misplaced tendonous attachments. Or, congenital malformations. Important to decide. Anesthetics. When spasmodic, see "Tetanus," etc., for remedies.

TALIPES : Muscles of leg and foot. Single or double. Acquired or congenital Permanent or transient.

(1.) *T. Equinus* : Common form. Heel drawn up. Muscles of calf. (2.) *T. Varus* : Foot turned in. Peroneal, or muscles of calf. (3.) *T. Valgus* : Turned outwards. Same muscles (?). (4.) *Calcaneus* : Walks on heel, foot flexed. Rare form. Anterior tibial muscles. Complication of above.

Cause : Agglutination of muscular and tendonous fibres. (TAYLOR : *N. A. Jour. of Hom.* XXIII., p. 69). BAUER. (*Orthop' Surg.* p. 36). Arrest of growth, extending foot to compensate. Affection of cord, or meninges, or both : particularly lower dorsal and upper lumbar. Paraplegia ; sometimes talipes coming on suddenly indicates a cure. Mechanical injuries, with muscular shortening.

TREATMENT : Mechanical, uncongenital cases, mostly palliation. Maintain good position ; tenotomy ; galvanism, or Faradism ; massage ; acupuncture. BAUER : (Ibid). "In order to establish success, re-establish proper innervation, promote nutrition and development, and give tone to the muscles.

Remedies : Depending upon strictly symptomatic indications.

Brucea, ant., Talipes varus. (HARTMANN).

Pinus. syl., Talipes varus ; particularly "weak ankles."

Contraction of Tendons : *Nat. m.*, *Rhus tox.*, *Ruta.*, *Con.*, *Caust.*

Cicatricial contractions : *Nit. ac.*, *Sil.*

XVIII. BONES.

PERIOSTITIS :

Inflammation of periosteum. Medicinal ; Rheumatic ; Venereal ; Traumatic ; Idiopathic. Acute and chronic differ little, except intensity and persistence.

Symptoms : Swelling of part usually circumscribed ; hardness (or puffiness). With or without redness. Tenderness on pressure and motion. Pain. *Diagnosis* : Rheumatism, more persistent and pain deeper. Osteitis, bone not enlarged ; often accompanies or precedes osteitis. One form essential to the repair of bone, e. g. Hyperæmia. Increased vascularity ; thickening, but soft and succulent ; effusion ; separation from bone. Periosteal functions not *purely* osteogenetic : Felon : Necrosis.

TREATMENT : Remedies under *osteites*, chiefly *Acon.*, *Aur.*, *Baryta.*, *Bell.*, *Calc.*, *Con.*, *Iod.*, *Merc.*, *Mezer.*, *Nit. ac.*, *Phos.*, *Phos. ac.*, *Sabina*, *Sil.*, *Staph.*, *Sulph.*

OSTEITIS.

Inflammation of bone. Acute : Traumatic : Chronic : Medicinal : Idiopathic.

(1.) *Acute* : Rare. Pain deep, boring or gnawing ; continuous ; on motion, pressure, weather changes. Swelling of part and some redness of skin. Bone swells, but soft. Heads of long bones mostly. *Result* : Caries, suppuration, osteoporosis.

(2) *Chronic* : Same, except elongation, hard swelling of the bone, slower progress ; pain less but more constant.

Result : Caries, exostosis.

TREATMENT : Mostly medicinal.

Acon., as usual.

Ars., Burning pain,—like an ulcer,—boring.

Asaf., Acute pain, changes to other kinds of pain on touching or pressure. Intermittent, like a plug, as from a shock.

Aurum. Burning stitches ; gnawing ; excited by touch.

Baryta c., In old persons, chronic cases. Scrofulous.

Bell., Extreme sensitiveness, dread of being touched or jarred.

Calc. c., Chronic ; scrofulous ; hard, bloated abdomen.

Iodine. Proceeding to suppuration, which is very profuse.

Merc. V., Pain as if broken, and usual symptoms.

Nitric ac., Mercurial cases. Pricking pain, etc.

Phos. ac., Feeling, as if bone scraped with a knife.

Silicea. Threatening caries, with thin brownish, unhealthy suppuration.

SUPPURATION OF BONE. *Syn.*, Osteopyelitis.

Cancellous structure ; Medulary canal. From osteitis or after amputation. Deep pain ; swelling and œdema of part ; skin

glazed, shining; Pulsation, remission, with tenderness on pressure. Pus thin, unhealthy. *Result*, Caries or pyæmia.

TREATMENT: Evacuation with trephine or bone drill.

Remedies: *Iod.*, *Merc. V.*, *Sil.*

CARIES.

Ulceration, removal of outer laminæ. More or less circular. *Caries*, granular disintegration. Commences in interior of bone; particularly heads of long bones or cancellous portion. Increased vascularity, swelling in part affected; abscess; sinus; unhealthy pus; debris. Not easily recognized until fistula forms. Probe reveals roughness of surface, which crushes under pressure.

Constitutional symptoms light or severe; extensive deformity from muscular contraction; even fracture.

Results: Death. Deformity from irregular repair.

TREATMENT: Resection: Gouge and chisel. Splints, etc.

Remedies: *Angustura*: Easily angered from slight cause.

Aurum: Caries of nasal bones, fetid odor; great melancholy.

Calc, C., Scrofulous persons. Sweating of head, hands, and feet. Coldness.

China., Great weakness and profuse suppuration.

Fluoric Ac., Syphilitic caries.

Merc. V., Constant bone pains, particularly at night. Sweat easily, no relief.

Ruta G., Pains as if broken or sprained; the skin erysipelatous.

Silicea: First importance. Fistula; brownish, thin pus, excoriating and offensive.

Also: *Hep.*, *Nit. Ac.*, *Lyc.*

RESECTION:

Objects: Save limbs; save life; and preserve symmetry. Remove all visibly diseased portions of the bone; entire thickness; remove completely unimportant bones.

Question of amputation. Functions of the part. Extent of injury or disease. Constitutional condition. Facilities for treatment.

Complete resection of joints to be preferred. Sub-periosteal operation to be preferred. Restoration of Bone: PROF. J. B. WOOD removed lower jaw. Three years afterwards patient died. Perfect new jaw. Only specimen in museum. (*Louisville Med. News*, III, p. 8.)

Instruments: Scalpel; retractors; raspatory; chain saw, and key-hole saw; lion-jaw forceps; bone forceps; artery forceps; needles, etc. Gouges, chisels, etc.

Incisions: Avoid blood-vessels, tendons, nerves, etc., and disfigurement. Dressing: Extension; passive motion, etc.

Treatment of Wound in Soft Parts: *Arnica*, *Staph.*, *Hyperic.* Of Bone: *Calc. phos.*, *Symphyt.*

SPECIAL: *Sup. Maxillary*: DIEFFENBACH'S, FERGUSSON'S, LISTON'S.

Inf. Maxillary, half at a time. Danger of tongue falling back. Secure glossi muscles for new attachment.

Clavicle: Formidable; time no object. MOTT: 4 hours, 40 ligatures. Knife close to the bone; handle to be used more than edge. Linear incision.

Scapula: Incision depends on circumstances. Sub-clavian artery compressed, on account of sub-scapular hæmorrhage.

Shoulder: U incision, or linear.

Humerus: Linear incision.

Elbow: Linear; posterior.

Fore arm: Most convenient method of incision.

Wrist: Complete. LISTON'S method.

Fingers: Rarely called for. Linear incision.

Hips: T, U, A, incision, or linear.

Femur: As humerus.

Knee: Transverse; H or U incision.

Leg: As fore-arm.

Ankle: Two lateral incisions.

Os calcis: Most convenient incision; less extensive removal better.

Astragalus: Most convenient incision.

Toes: Little used. As fingers.

NECROSIS:

Analogous to gangrene. *Caries*, molecular death. *Necrosis*, death as a whole.

Compact portion: Symptoms similar to caries. Probe elicits hard, metallic sensation. Double process both in caries and necrosis: i. e., destruction and repair. Calus deposited with more regularity in necrosis. *Clocæ*: *Sequestrum*: *Exfoliation*.

Causes: "Mal-nutrition" sequelæ to osteitis, etc. Diminished or obstructed blood supply, as loss of periosteum. Cachexia; medicinal poisoning.

TREATMENT: Removal of sequestrum *when loose*. Excision.

Remedies: Compare "*Caries*," *Aurum.*, *Phos.*, *Silicea.*, *Merc.* In early stages perhaps *Bell.*, *Bry.*, *Calc.*, *Lyc.*, etc.

Treatment largely preventive.

HYPERTROPHY:

General: No increase of elements singly; simple exaggeration in weight, size, density, etc. Hyper-nutrition. Often physiological.

Partial: Tumor-like. Resembles, and may be considered, exostosis, etc.

When general, no treatment required.

Partial, see "*Exostosis*," "*Osteo Sarcoma*."

RACHITIS :

Western continent. Poverty. "English Disease." Bones soft; cartilaginous: bend easily, with consequent great deformity. Commences in legs; cancellous structure enlarged; serous (red) infiltration. Head large; open fontanels; weak; sickly; cachectic-looking. Urine loaded with salts of lime. Diarrhœa. Recovery, with deformity. Death, from "marasmus." Organic elements in excess (normal). Inorganic, diminished. *Cause*: Obscure. Not hereditary. "Mal-assimilation." BAUER (*Orthopedic Surgery*, p. 213): Poor, inadequate nourishment; and damp atmosphere, as in laundries. Excess of lactic acid. (VIRCHOW.) PAGET (*Surg. Pathol.*): Fatty degeneration.

TREATMENT: Avoid "physiological."

Remedies: Cod-liver Oil in 1st atten.

Bell., Squinting; dilated pupils; protruding abdomen.

Calc. C., Slow dentition; open fontanels; sweat head, face, etc.

Calc. Phos., Similar to *Calc. C.*; whitish diarrhœa; extreme emaciation.

Natrum Mur.: Emaciation, particularly of thighs. Compare remedies for diarrhœa, marasmus, etc.

OSTEO-MALACIA: Syn., *Mollities Ossium*.

Adult rachitis. Women, particularly after child-birth. Earthy salts in urine. Fatty deposit to repair loss. Two forms, (PAGET'S *Surg. Path.*, 109.) Senile: Accidental or acquired.

Senile: Form of fatty degeneration, with atrophy.

Acquired: Fatty degeneration, without atrophic essentials.

1. Pliable. 2. Friable. Former like rachitis. Latter, not fragility, but breaks down under pressure into oily mass.

Symptoms: As in rachitis. Wandering rheumatic pains. Urinary deposits. Bones dark colored and oily.

TREATMENT: As rachitis. Very rare. No cases of cure on record.

FRAGILITAS OSSIUM :

Old age—either sex. Loss of organic elements; increase of inorganic. Associated calcification of arteries; obliteration of arteries. "Mal-nutrition."

Symptoms: No prodroma recognized. Frequent fracture, and general calcification. (MALGAIGNE'S case.) Bones dry and porous.

TREATMENT: Unsatisfactory. Palliative: *Symphytum*.

EXOSTOSIS :

Original meaning. Modern, ivory or hard form. Smooth; round; hard. Flat bones, mostly; particularly frontal. Excess of inorganic elements. Often derived from periosteum and soft parts. No assignable cause. Exciting cause, injury. Diagnosis, easy, when on external surface. Rarely on internal.

TREATMENT: Excision.

Remedies: See "*Osteo-sarcoma*," as well as "*Tumors*."

OSTEO-SARCOMA:

Soft or cancellous structure. Ends of long bones chiefly. Large; circumscribed; nodular; irregular; broad attachment. Structure: Outer laminæ of bone pushed out; multiplication or enlargement of cellular structure. Vascular. Grows rapidly. Recurs. Causes death by exhaustion. Sometimes forms bone cyst, spina-ventosa.

TREATMENT: Excision. Amputation.

Remedies: *Arnica*: Red, hot, shining swelling of the part. Bruised, lame sensation.

Ars., Pain like the gnawing of rats in the bone, or screwing a gimlet in.

Aurum: Painfulness of bone at night; bones sensitive and painful to the touch. Boring pain in tumors; increased when touched.

Hecla lava: Osteo-sarcoma, particularly of the jaws. Arrests growth, but not proved curative.

Mezer., Pains severe; burning pain. Pressure aggravates. Skin of part brown and dry, surrounded by reddish blue.

Phos., Shining, painless, uninflamed tumor.

Silicea: Cases proceeding to suppurate, with characteristic pus, etc.

Other remedies may be needed in the beginning, or to complete a cure: *Bell.*, *Con.*, *Hep.*, *Nit. Ac.*, *Merc.*, *Sulph.*

Disease.	Age.	Sex.	Structure. Involved.	Elements.		Results.	Morbid Process.
				Organ.	Inorg.		
Osteitis:	All.	All.	Cancellous.	Inc.	Dec.	Suppur- ation.	Inflamma- tion.
Acute,	do	do	All.	Dec.	Inc.	Exostosis	do
Chronic							Molecular disintegra- tion.
Caries ---	do	M. ?	Cancellous.	Inc.	Dec.		Gangrene.
Nerosis.	do	All.	Compact.	Dec.	Inc.	Exfolia- tion.	
Hyper- trophy.	do	do	do	N.	N.		Hyper-nutri- tion.
							Fatty degen- eration.
Rachitis.	Child	do	Cancellous.	Inc.	Dec.	Deform- ity.	Mal-assimila- tion.
Osteo- Malacia	Ad.	Fem.	do	Inc.	Dec.	do	do
							Senile invol- ution.
Fragilitas Ossi	Old.	All.	All.	Dec.	Inc.	Fracture	Mal-assim.
Exostosis..	All.	do	Compact.	Dec.	Inc.	Neuro- sis.	Luxuriation.
Osteo- Sarcoma	do	do	Cancellous.	Dec.	Inc.	Death: Sup.	Mal-assimila- tion.

FRACTURES :

Literally, a break. Technically, a broken bone.

Causes : 1. Predisposing. 2. Exciting.

(1). Morbid process. Age. Season. Sex.

(2). Direct injury. Muscular contraction.

Varieties : Simple. Compound. Comminuted. Complicated. Ununited. Complete, and Separation of Epiphysis. Incomplete. Transverse (*En Rave*). Oblique (*Bec de flute*). Longitudinal. Impacted. Perforating. Stellate. Depressed.

SEMEIOLOGY : *Deformity*, absent in impacted. *Mobility*, preternatural ; absent in impacted, and of flat bones. *Pain*. *Crepitus*, absent in impacted and depressed, or of flat bones generally. *Diagnosis* : From contusions ; dislocations.

Repair : Rarely perfect symmetry. Dependent upon degree of displacement and impaction, etc. Similar to soft parts : i. e., Immediate union ; First intention ; Analogous to granulation. Provisional callus. Sometimes permanent. Definitive callus ; more solid than bone. Reparative material comes from ends of bones, soft parts, etc., plasma. Removal of provisional callus. Effect of disease on permanency, Scorbutis, Syphilis, etc. Overlapping of fragments ; bridge forms.

General Treatment : 1. Reduction. 2. Retention. Minimum use of splints. Silicate, plaster, starch bandage. Improvised dressings. Pasteboard, etc. Position of muscles. Weight and pulley ; bran-bags. 3. Complicated and compound ; first heal other lesions. 4. Ununited ; seton, friction, ivory pegs, resection. *Ruta.*, *Calc phos*.

Remedies : *Symphyt.* *Ruta*.

SPECIAL FRACTURES : (1). *Head* : Flat bones. From torn muscles : Trephining. *Arn.*, to raise fragment. Direct force. Contra-coup. Firm bandage. Cephalic trouble, see "*Diseases of Head*."

(2). *Face* : *Nasal*. Rapidity of union. Catheter and fingers to reduce. Lead mould, or pledgets of lint for retention. *Malar* : Usually violent direct blow. Concussion frequent ; extensive injury to other bones and joints. Difficult reduction : sometimes allowed to remain. *Sup. Maxillary* : Concussion, often more of a luxation. Reduction difficult. Line of teeth irregular. Wiring of the teeth. Gutta-percha splint. May need incision to reduce. *Inf. Maxillary* : Line of fracture rarely transverse. Line of teeth : pain on motion, upon pressure inwards upon both rami. Wiring of teeth : moulded splint. *Ramus* : Difficult retention. Same treatment. *Zygoma* : Outward displacement usual. When inwards, reduce by chewing on stick, through action of temporal. Whole face driven in, MALGAIGNE'S case.

(3). *Hyoid*: Rare. Direct violence. Great pain, dyspnoea, etc. Rest and adhesive straps.

(4). *Spine*: Usually crushed. Paraplegia or death, according to region. Rest and adhesive straps; usually fatal.

(5). *Clavicle*: Arm supported by other hand. Fox's apparatus, and modifications. Inner portion sometimes tilted up: needs a compress in addition. Figure of eight bandage.

(6). *Sternum*: Compress. Figure of eight bandage around the shoulder to keep well back. Usually extensive thoracic injury. Emphysema common.

(7). *Ribs*: Squeezing force: great violence required. Oblique. Thoracic injury. Adhesive strips around chest.

(8). *Scapula*: (a). Acromion, or neck. Simulate dislocation or fracture of humerus. On raising head of humerus, deformity remains, or little improved. Can place hand on opposite shoulder. (b). Coronoid, bring elbow forward; fix by firm body-bandage; sling to forearm. (c). Body, difficult to detect; firm body-bandage. Fox's dressing, modified by body-bandage, is useful in all three.

(9). *Arm*: (a). Condyles: Bandage. (b). Shaft: Simple extension, and straight splint. (c). Surgical, neck: Simulate dislocation, but freedom of motion differentiates. Body bandage; sling for forearm; weight to elbow. (d). Head: Usually gun-shot. Firm bandage, with axillary pad. Simple sling in many cases.

(10). *Forearm*: (a). Head of radius: Rare. Difficult extension. Flex arm; double splint. (b). Shaft: Displacement dependent on location, whether above or below attachment of biceps or pronators. Arms supinated, and straight splint. (c). COLLES fracture: Lower extremity of radius. Deformity great. Hands turned outward; great pain. Lower fragment turned backward. Hand flexed, in "pistol" or BOND's splint. Compress. (d). *Ulna*: Little displacement. Double splint. (e). Olecranon: Usually detected easily. Compress and firm bandage; arm extended. (f) Coronoid: Very rare. Strong flexion and angular splints. (g), Both Bones: Easily detected; semi-pronation, flexion of arm, angular splints.

(11). *Carpus*: Usually comminuted. Semi-pronation: Hand extended. Passive motion.

(12). *Metacarpus* and *Phalanges*: As other long bones.

(13). *Inominate*: Crushing or squeezing, often fatal. Hæmaturia, and pelvic complications. Firm bandage and rest.

(14). *Femur*: (a) Neck, Inter-capsular; Extra-capsular. (1). Predisposing cause, age. (2). Exciting cause, fall on knee or foot. Muscular action, upward force. Capsule partially torn. Oblique impaction. Shortening, less in beginning, or absent. Crepitus, absent or indistinct. Careful manipulation to avoid dangerous displacement. Eversion of foot; in rare cases, inver-

sion. Trochanter, less prominent. Motion usually impossible ; painful.

Prognosis : Ligamentous union ; often.

Extra Capsular or Trochanteric, involving trochanter or not. Injury directly to trochanter at times, seldom ; falls on foot or knee. Impaction the rule. Trochanter seems driven in. Eversion of foot usually. Crepitus, when no impaction. Mobility, when no impaction, otherwise easily moved by others, but not by patient. Shortening, either primary or secondary. *Diff. diagnosis* : (HAMILTON, *Fractures and Dislocations*, page 379).

Inter-capsular.

Slight violence.
Fall on foot or knee.
Over fifty years of age.
More frequent females.
Pain, less and deeper.
Shortening at first, less or more.
Later, greater.
Trochanter turns on a relatively longer radius.
Three or four months before restoration, if at all.
No enlargement of trochanter after recovery.
Progressive wasting of limb for months after recovery.
Excessive halting. Hip motion as from a wooden leg.

Extra-capsular.

Greater violence.
Fall on trochanter.
Often under fifty years of age.
Frequency not established.
Pain, etc., greater, superficial.
At first greater.
Later, less.
Shorter radius.
From six to eight weeks.
Trochanter enlarged.
Natural strength and size.
Slight halt. Hip motion natural.

(b). *Partly in neck, partly in trochanter.* Similar symptoms. Long splint ; absolute rest. (c). *Shaft.* Direct blow. Middle third, oblique the rule ; great obliquity, so that fragments cannot support each other. Shortening, eversion, and common symptoms. Recovery with shortening the rule. Danger from perineal bands. Double inclined plane. Long splint. Weight and pulley, immovable dressing. (d). *Condyles.* Rare, Bandage. Passive motion.

(15). *Patella* : Transverse ; vertical, very rare ; comminuted ; wide gap. Special bandage. Leg extended and elevated. Ligamentous union.

(16). *Tibia* : Direct force. Little displacement unless oblique, from direct violence. Sloughing of skin. Fracture of fibula also the rule. Weight and pulley. Fracture box or double-inclined plane.

(17). *Fibula* : Direct injury or twist of foot. Displacement inwards of lower fragment. Turns foot same as in Talipes varus. Straight splint.

(18). *Both bones of leg.* Direct force, oftener compound. As in tibia alone.

(19). *Tarsus (a) Astragalus*: Usually with dislocation of ankle. Crepitus only sympt. Constant with displacement; heel shortened or flattened. Easy position. Combat inflammation; passive motion. (*b*). *Calcaneum*. Direct force. Easy diagnosis. Flex leg. Slipper, bandage on thigh, and connection to heel of slipper. Foot extended. (*c*). *Other bones* as of astragalus.

(20). *Metatarsal and Phalanges*: *Vide* bones of hand.

XIX. JOINTS.

SYNOVITIS: Inflammation of synovia. Traumatic, strumous, medicinal, idiopathic. *Primary*: All symptoms of inflammation of joint. *Secondary*: Swelling, fluctuation. Later, swelling becomes boggy, doughy. Hydrarthrosis. Membrane thicker, rough, crepitus, pain of varying intensity. *Results*. suppuration with fistulous abscess; ankylosis. Knee oftener affected.

TREATMENT: Elastic bandaging; aspiration; free evacuation of pus; rest.

Remedies: *Bell.* Bubbling as from drops of water, with cutting and drawing pain.

Calc. c.: Chronic; scrofulous. Debilitated persons.

Caust: Stiffness, bruised, tearing, sticking, numbness. Worse in evening.

Ledum. Much effusion; coldness.

Merc: Aching in bones; syphilitic cases; much sweat with no relief.

Lycop: Feeling of constriction, with slight swelling.

Kali c.: Aching; dread of open air; takes cold easily.

Rhus t.: Rigidity of joints; sticking pains; typhoid tendency.

Sepia: Jerking, sticking; where tendons have been violently strained.

Sil: Chronic cases with destructive processes.

ARTHRITIS: Syn.: Gout. Podagra; feet. Gonagra; knee. Chiragra; hand. Periodical articular inflammation. Masculine; over thirty years of age. Hereditary disposition; excess of nitrogenous food, and indolent habits.

(1). *Acute*: Pain, excessive; worse on least jar and at night. Swelling uniform, no fluctuation (vs. Synovitis); doughy, boggy. Sometimes abscess. Spontaneous luxation.

(2). *Chronic*: Same symptoms frequently occurring. Deposit in joints urate of soda and potash. Nodosities (tophi).

Swelling remains after attacks, each time larger. Sometimes abscess, or ankylosis.

(3). *Ambulans*: Metastatic. To stomach, heart, brain. Often fatal. History essential to diagnosis.

(4). *Chronic rheumatic*. Not gout; scrofulous. Worst features of both diseases.

(5). *Idiopathic*. Inflammation of joint. (See "synovitis").

TREATMENT: Absolute rest; change of diet. Exercise; early medication.

Remedies: For most part as in rheumatism. Acute cases: *Acon.*, *Bry.*, *Rhus.*, *Colch.* Chronic: *Caut.*, *Calc.*, *Lyc.*, *Sulph.*, *Thuja.*, *Ant. c.*, *Caut.*

ANKYLOSIS: Immobility of joint. Partial, or ligamentous. Complete, or osseous.

Causes: Long-continued inflammation; fractures; dislocations; gout. Mercurialization; Syphilis; or any destructive process. False ankylosis, muscular contractions, ligamentous attachments. Pain on motion in incomplete form; no pain when complete. Congenital, or congenital absence of joints.

TREATMENT: Mostly mechanical. Not a disease. Tenotomy; *brisement force*; exsection; to alter faulty position, or establish new joint. Caution in old cases, from shortened nerves and blood vessels. Caution in young people, from separation of epiphyses.

COXALGIA: Syn. *Morbus coxarius*; *coxarthrocace*; hip disease. Children and young persons. Scrofulous. Sometimes due to trauma with no prodroma. Unilateral; rarely cured spontaneously. Three stages.

First Stage. Limp; easily tired; pain slight in knee; sleep disturbed; at times jerking in knee or affected limb; no objective symptoms. Pain next extends upwards and downwards, tendo Achillis, being very painful. Apart from struma general health good. Pressure on trochanter, or striking sole of foot with leg extended, will cause pain in hip.

Second Stage. Pain more local; some little in the knee; more continuous and severe; nates flatten; crural fold disappears; muscles atrophy; leg longer; foot everted or inverted. Health impaired; sleepless; night fever; night sweats; emaciation; fretful and peevish.

Third Stage. Suppuration in joint; joint destroyed; foot turned in or out; leg lengthened or shortened. Increase of pain; cannot bear any motion; deep throbbing; swelling of hip; œdema of parts; veins turgid and enlarged; rigors; high fever; copious sweat; discharge of pus.

Results: Ankylosis; continuation of morbid process elsewhere; death.

Hysterical: Sex; age; no objective symptoms; no pain on pressure on trochanters, etc.; *pain never wakes from sleep, but may keep awake.*

TREATMENT: 1st Stage. Rest, even after apparent cure. 2d Stage. Aspiration or puncturing of joint sometimes gives relief.

Remedies: *Bell.* or *Merc.* in first stages.

Coloc., Sharp cutting pains; as if held in iron hand.

Calc. c., Scrofulous subjects; urine loaded with urates.

Rhus. t., Rheumatic symptoms; tension and stiffness of muscles. Also *Sulph.*, *Lyc.*, *Stram.*, and others.

ENLARGED BURSÆ. Oftener on the foot. Inflamed; hypersecretion. Soft, compressible. Organized and hard later. Painful, particularly after irritation.

TREATMENT: Remove cause. Extirpation when large. *Ars.*, *Ant. c.*, *Apis.*, *Puls.*, *Sil.*, *Sulph.*

GANGLIONS. Simple, Compound. Syn. Weeping Sinew.

(1) *Simple*. Cysts in connection with tendons. Mostly in region of wrist. Smooth, globular, elastic, movable, painless. Contents clear serum. Size from pea to cherry.

(2) *Compound*. Distension of sheath of tendons irregular in form, of great size.

Cause: Strains, pressure, or rubbing.

TREATMENT: Rupture. Compression. Section. *Calc c.*, *Sil.*, *Apis.*, *Ruta.*, *Rhus.*

FALSE CARTILAGES. May be fragment of articular cartilages or new formations. Varying size, shape and consistency. Float about; attached by a long pedicle. Often in knee.

TREATMENT: Favor attachment. Excision.

WOUNDS OF JOINTS, Serious in proportion to size and proximity to trunk. Anchylosis; suppuration; destruction of joint. Incised wounds least dangerous; punctured greater. When lacerated, with great injury to joint, amputation may be called for.

Treat as wounds of other soft parts.

SPRAIN. Actual sub-luxation. Pain on motion excessive. Swelling considerable, more or less discolored. Heat not always great. Possible rupture of blood-vessels. Ginglymoid joints oftener affected.

TREATMENT: Rest; cool applications. *Arnica*, Favor resorption of blood. *Rhus.*, *Ruta* (vide "*Strains*").

DISLOCATIONS. Syn.: Luxation. Displacement of two or more bones entering into the composition of a joint.

Simple. Compound. Complicated. Complete. Partial. Recent. Ancient. Primary. Secondary.

Causes Predisposing: Age, oftener in middle life. Feeble constitutions; lax fibre; paralysis.

Exciting: External violence, direct or indirect. Muscular action, spontaneous or spasmodic. Ball-and-socket joints most frequent.

SYMPTOMS: Rigidity; no crepitus; when reduced remains in place without support as a rule; pain; swelling; discoloration. Limb oftener shortened, sometimes lengthened. Natural axis with socket always changed. Injury to joint of varying degrees; ligament stretched or torn. When unreduced, old socket fills up, new one often formed. All parts more or less atrophied. Ancient cases artery sometimes torn in reduction. Joint never *completely* restored.

TREATMENT: *Reduction* early; manipulation preferred. Anesthesia. Extension; manual force; pulleys; clove-hitch; Spanish windlass. *Retention* as in fractures. *Arn.*, *Ruta.*, *Rhus.*

HAMILTON (*Fractures*, p. 499): Warning against attempting treatment without complete knowledge.

SPECIAL DISLOCATIONS.

1. LOWER JAW: Single, unilateral. Double, bilateral.

(a) *Double:* Women oftener. Direct muscular action; mouth open; immobility; salivation; pain; depression anterior to auditory canal; inarticulate speaking. Unreduced, gradual restoration of form, speech, etc., but jaw advanced.

Reduction: 1. Wood between molars and upward pressure. 2. Thumb on molars pressing down, fingers pressing up. 3. Gradual forcible pressure of chin upwards (RAVATON). 4. Further depress chin, then push backwards (HIPPOCRATES). 5. Reduce one side at a time. Anesthetics in every method.

Double-headed bandage; passive motion after the first week.

(b) *Single:* Same symptoms. Chin directed to opposite side (*Fracture* of condyle, chin to injured side). Same treatment.

2. SPINE: Rare without fracture. Falls on feet or head; twisted spine; spontaneous, from disease. Fixedness (*fracture* mobility). Not as fatal as fracture, but needs prompt reduction. Paralysis, temporary or permanent.

3. RIBS: Rare. *From vertebrae*, reduced by pressure. *From cartilages*, pressure; splint over three spaces for retention.

4. CLAVICLE: (a) *Forward from sternum*: Force on point of the shoulder; sudden muscular effort. Plainly seen; shoulder falls a little back; head inclined to the same side; embarrassed movement of arm. Has been taken for a tumor; tumor taken for luxation. Hitherto, treatment a failure; reduction easy, retention seems impossible. Draw the shoulders back.

(b) *Upwards on sternum*: Same difficulties; very rare.

(c) *Backwards*: Crushing force or direct injury. Pressure on trachea, causes dyspnoea. Easy reduction, easier retention.

(d) *Acromial end upwards*: Force on point of shoulder. Shoulder depressed; cannot raise the arm at right angle. Reduction; pressure, pulling shoulders back, pad in the axilla, arm for a lever. Impossible (?) retention.

(e) *Acromial end downward*: Rare. Force on top of clavicle. Reduction, draw shoulders back and outwards. Retention easier.

4. **SHOULDER**: (a) *Downwards* (axillary): Force direct on upper end and outer surface; falls on the hand, or elbow. Sub acromial depression; elbow out from the body; inability to put hand on the opposite shoulder. Perfect restoration only after months. Reduction: 1. Elevate the arm; and pull in the same axis. 2. Draw the arm out, at right angles, or beyond; traction, with pressure down on the top of scapula. 3. Heel in in the axilla, and traction. 4. Knee in the axilla and pressure on scapula. 5. Pulleys.

(b) *Forward* (*sub-clavicular: sub-coracoid*): As above, in all essentials.

(c) *Backwards* (*sub-spinous*): Same as above; arm carried to the front, and head of bone felt under spine of scapula. Treatment essentially the same.

6. **ELBOW**: *Head of radius*: (a) *Forwards*: Fall on posterior face of radial head; on hand, arm extended and pronated; extreme pronation. Head felt in new position; arm inclines outward; pronated; flexed. Old cases, unnatural extension. Reduction often impossible. Extension in direction of flexion, and pressing head of bone with thumbs. Never extend the arms for some weeks (Retention usually fails), nor forcibly extend for months. Right angled splint, compresses and roller.

(b) *Backwards*: Blow or fall on front of radius; violent supination; twisting in machinery. Head felt back of condyle; arm flexed and pronated; supination impossible. Arm inclined outwards; Extension, forcible supination, and pressure with fingers.

(c) *Ulna*: (a) *Backwards*: Falls on the hand; blow on upper part of arm. Olecranon prominent: Flexion; painful or impossible extension. Pressure on ulnar nerve gives much pain. Extension; pressure on olecranon; forcible flexion.

(d) **BOTH BONES**: *Backwards*: Fall on the hand; blow on the arm; forced flexion. Coronoid in olecranon fossa; slightly flexed; pronation; great swelling; flexion painful, gives increased prominence to the olecranon. Reduce by knee in the elbow. Guarded diagnosis.

(e) *Outwards*: (Radial side). Often partial. Blow on the inner side of forearm; Secondary upon backward luxation. Forearm flexed; pronated; great and characteristic deformity.

Reduction easy; knee in the elbow, extension, supination, pressure.

(f) *Inwards*: (Ulnar side). Much more rare. Fall on hand or forearm; blow on the outside upper, or inside lower part of forearm; twisting. Radius occupies ulnar trochlear. Ulnar nerve often contused. Flexion; forcibly pronated. Difficult reduction; modifications of the above.

(g) *Forwards*: Supposed impossible without fracture. Great violence; forcible flexion or extension; twisted. Right angled or acute; strong supination. Reduced by flexion and extension.

7. WRIST: Very rare; most autopsies show fracture.

(a) *Backward*: Fall on palm of the hand. Abrupt rising of ends of the bones, greater than in fracture. Reduce by extension in straight line, with rocking motion.

(b) *Forwards*: Same considerations; more rare.

(c) *Ulna. Backwards*: From extreme forcible pronation. Hand more or less pronated; head of bone felt and seen; fingers, hand and arm slightly flexed. Reduction easy; strong supination and pushing bone in place.

(d) *Ulna, forwards*. Rare. Cause, extreme supination. Flexing hand, and pushing bone in place.

(e) *Carpal bones* (among themselves). Very rare; generally backwards. Reduction easy (?). Retention easy. Danger of severe inflammation and ankylosis.

8. HAND. (a) *Metacarpals* (from Carpals.) Thumb oftener. Symptoms usually clear. Reduction by extension and pressure.

(b) *Phalanges* (backwards or forwards). Easy diagnosis; usually at an angle. Flexion, extension and flexion for reduction. Sometimes tenotomy required. Extension made by clove-hitch, LEVIS' instrument, or Indian puzzle.

(c) *Forward*. As above, reversed manipulations; i. e. forced flexion, extension, and then straightening the finger.

9. THIGH. Four directions, mainly. Dorsum ilii; Ishiatic: Foramen thyroidean: Pubic.

(a) DORSUM ILII: Force compelling, or while in, extreme abduction, with rotation; bone driven up and back. *Regular*, incomplete rupture of Y ligament. *Irregular*, complete rupture of ditto.

Shortened; adduction; rotation; slightly flexed; great toe on instep of sound foot; knee touches opposite thigh; varies in degree of deformity. Body bent forward; hip flatten; trochanter depressed; head of femur felt and seen. Examine standing, then in other positions.

FRACTURE.	DISLOCATION.
Crepitus.	No crepitus.
Mobility.	Immobility.
Eversion of foot.	Inversion of foot (?).
Shortened little, or none at all.	More shortening.
Able to walk some distance.	Cannot bear weight on foot.
Advanced life.	Middle life.

Prognosis, good in recent cases ; little crippling in ancient ones.

TREATMENT: Obstacles to reduction: Muscular action ; remains of capsular ligament ; Y ligament ; obturator internus tendon. 1. Manipulation. 2. Extension. 3. Combination of the two.

(1) *Manipulation*: Flexion, adduction, rotation outwards, extension. Knee carried in direction of least resistance. No anesthesia as a rule, Fractures of neck may occur in ancient cases or old people.

(2) *Extension*: Pulleys ; tourniquet (BLOXAMS) ; adjuster (JARVIS) ; Spanish-windlass. Foot in groin. Fracture of shaft may occur. Counter extension.

After reduction, knees on pillow and tied together ; lying on back ; hip gently rotated outwards.

(b) ISCHIATIC: Primary: Secondary upon iliac ; or become iliac. *Cause*, violence when leg much advanced. Really sciatic ; leg extended, slips up in sciatic notch, is checked by tendon of obturator int. Shortening: flexion ; abduction: rotation inwards: thigh may be at right angles, and across the body ; or slightly flexed. Head of bone felt. Flexion moderate, difficult detection (SYME.) *Arching of lumbar spine, particularly when leg extended.*

TREATMENT: Manipulation ; may transfer to thyroidean. Same as dorsal, disengaging head from tendon. Extension more at right angles.

(c) THYROIDEAN. *Cause*: Violence when thigh is abducted. Abducted ; lengthened ; body bent forward: flexed: toes point forward, eversion or inversion ; hip flattened: long abductors felt tense ; trochanter depressed: head of bone felt. Lengthening, vs fracture. Ileo-femoral (Y) ligament, chief obstacle.

TREATMENT: Manipulation, extension in easiest direction of motion. Lift head of bone by towel and assistant. Extension, lateral (COOPER).

(d) PUBIC. *Cause*, violence, thrown backward. Shortened ; abducted ; flexed ; rotated outwards: trochanter lost ; head of bone felt.

TREATMENT: Reduction easy. Rotate upwards, pressure of

hand on head of bone, or, adduct forcibly, rotate outwards, flexion, and extension. Extension slightly downwards.

10. PATELLA. (a) *Outwards*: Muscular action; twisting the leg; blows. Knee broader; leg bent; felt easy; great pain. *Reduction easy*, straighten leg to relax tendon. Easy reproduction.

(b) *Inwards*: Same symptoms and treatment. Less frequent.

11. KNEE. Exceedingly rare. Severe wrenching or extreme violence. Complete, or incomplete; rather oftener.

(a) *Backwards*: Felt in popliteal space; much pain; depression in front; may be shortening; extreme extension, or anterior flexion; varies greatly.

TREATMENT: Recent or incomplete, manipulation in direction of least resistance; or forced flexion, pressure, and extension. When *complete* may need extension also.

(b) *FORWARDS*: Reverse of former, same treatment. Popliteal artery may be torn or compressed.

(c) *OUTWARDS*: Symptoms obvious. Same principles.

(d) *INWARDS*: The same.

(e) *SUB-LUXATION*: (*Semi-lunar cartilages*). Sudden, great pain; loss of power; immobility. (Transient; one attack predisposing to others).

12. ANKLE. Four directions, often fracture also. HAMILTON; tibial dislocations. BOYER, of the foot. Terms reversed. Adopt the latter.

(a) *OUTWARDS*: Fall on foot inclined outwards. Astragalus tilted up. Foot abducted, sole outward. Pain very great. Easy detection. Reduction easy, forcible abduction, or flex leg, extension and pressure.

(b) *INWARDS*: Same; reversed.

(c) *BACKWARDS*: Force with violent extension. Malleolus broken. Foot shorter, heel longer; toes down, heels up. Extensor tendons well defined. Flex leg, extension with pressure: when nearly reduced, forcibly flex foot. Sometimes difficult retention.

(d) *Forwards*: Rare. Symptoms marked. Foot longer; heel shorter. Treatment, same principles.

13. TARSAL: Vide "*Carpal*."

14. METATARSAL: Vide "*Metacarpal*."

15. PHALANGYAL: Vide "*Fingers*."

XX. NAILS.

MALFORMATION. 1. Arrest of development; little to be done. 2. Irregular repair; promise of at least partial success. Alterations in any form: elongation, shortening, thickening, etc. All cases considered either hypertrophy or atrophy.

(a) *Hypertrophy*: Nail thickens; laminae heaped up; shorter; sometimes larger, talon-like; roughened; loses shining appearance; splits longitudinally. All the nails, or of one extremity alone.

TREATMENT: Unsatisfactory when matrix is injured. *Graph.*, *Calc.*, *Alum.*, *Sil.*, *Sulph.*

(b) *Atrophy*: Oftener toes. Rougher, dull appearance, thick, short, laminated; on trimming them, they split off in laminae. Ultimately disappear, without inflammation during whole progress of case. Specific taint, or senile involution.

TREATMENT: Entirely medicinal; rarely presented for treatment; occurring as a symptom.

Nails break, peel off, split readily: *ALUM*, *Curare.*, *Merc.*, *Sep.*, *Sil.*, *Squill.*, *Sulph.* Fall off, without inflammation. *Ant. c.*, *Ars.*, *Hell.*, *Merc.*, *Secale.*, *Sep.*, *Squill.*, *Thuja.* (LILIENTHAL. *Skin Dis.*, p. 164).

ONYCHIA. Inflammation of matrix, and parts in connection with nails. On hands mostly.

(a) *Simple*. Usually traumatic; little moment.

(b) *Malignant*. Syphilitic, strumous, etc. Children under ten; rare disease. Inflammation in corner; nail rolls up, shows foul ulcers; pus offensive; end of fingers bulbous, loss of bone; imperfect repair; recurrence. Rarely cured spontaneously.

TREATMENT: Traumatic: *Arn.*, *Fluor. ac.* Other cases, depending upon, dyscrasia: *Hep.*, *Lach.*, *Sil.*, *Sulph.*, *Calc.*, *Bufo.*

IN-GROWING TOE-NAILS.

Cause. Tuberculosis; cutting nail square; ill fitting shoes. Ulceration, with fungous granulations. Nail may pierce toe completely. Resembles, in fact, onychia.

TREATMENT: *Mechanical*. Remove mechanical cause: trim nail; remove thin shaving from root to tip, once a day; draw parts away with straps; pellets of lint in ulcers; removal of nail; *per-sul ferri.*, to granulations. *Sil.*, *Nit. ac.*, *Merc.*

GENERAL THERAPEUTICS.

Alum. Discharges copiously, gelatinous; tenacious, flesh-colored.

Antim. c., Skin of part hard, horny, callous.

Arn., Onychia from injuries.

Bufo., Phlegmonous inflammations; lymphatics affected; pain runs in streaks up the arms.

Fluoric ac., Empirically used.

Graph., Thickening, little elongation.

Hcp. s., Syphilitic or mercurial cases.

Lach., Livid appearance, with threatened destruction of finger.

Merc., Syphilitic cases.

Sil., Smells offensively; thin pus; extends to bones.

XXI. AMPUTATIONS.

Indications : Extensive injury ; large tumor of bone ; individual judgment to decide. Rarely for disease ; if so, above a joint.

Objects : Save as much of part as possible ; fitting artificial limb ; nourishment of stump. Point of election.

Instruments : Knives ; amputating, scalpels, interosseous. Cloth retractor. Saw, finger or butchers. Bone-forceps. Artery-forceps or tenaculum.

Assistants : Four. Tourniquet : ESMARCH's bandage, or compression.

Methods : Transfixion ; without inward ; double, single, or skin flaps ; oblique (fanciful) ; circular ; TEALES, rectangular flaps, lateral incisions, length of half the circumference of part.

Dressing : Sutures ; straps ; recurrent bandage ; maltese cross.

TREATMENT : *Position*, easy, and to relax muscles. *Temperature*, even. *Remedies* : *Acon.*, *Staph.*, *Bell.*, *Arn.*

SPECIAL AMPUTATIONS :

Fingers : Rarely leave first phalanx alone. Second and third fingers may be removed at middle of metatarsus. Thumb to be kept, if possible.

Hand : Thumb to be kept, if possible.

Wrist : Point of election, lower third of arm.

Forearm : Skin flaps, to avoid muscular tension.

Elbow : Single flap.

Arm : Double flap.

Shoulder : Assistant to follow and secure artery. (1) LISFRANC : External flap (of deltoid) by transfixion ; knife over caput, followed by assistant, for inner flap. (2) LARREY : Lateral flaps.

Toes : As fingers.

Foot : (1) HEY : Metatarsus, from tarsus. (2) CHOPART : Leaves astragalus and calcis. (3) PIROGOFF : Remove ends of leg bones, articular face of calcis ; turn latter up against former. (4) SYME : Close above the malleoli. Preferable to others.

Leg : TEALÉ's preferable.

Knee : CARDEN : Through condyles of femur.

Thigh : Point of election, lower third. Flaps. antero-posterior, lateral, or of skin. Circular.

Hip : As in shoulder. Assistant to follow knife for artery. Abdominal aorta, or iliac, to be compressed.

PART THIRD.

REGIONAL DISEASES.

XXII. HEAD.

COMPRESSION OF THE BRAIN :

Suspension, or modification of function, from pressure on the brain. *Causes* : Depressed fracture, effusion of blood, serum, or pus ; tumors ; foreign bodies. *Prognosis* : Dependent upon cause ; traumatic most favorable. Cold face, clammy perspiration, "pumping" of larynx, stertor, frothing at mouth ; pupils dilated or contracted, but immovable.

TREATMENT : Evacuation of fluids, when detected. Trephine for depression ; careful over sinuses. *Instruments* : Razor ; scalpel ; trephine ; guide ; brush ; HEY'S saw ; raspatory ; elevator. *Remedies* : *Arn.*, Restores tonicity of membranes, and elevates loose depressions. Other remedies, see "Shock."

CONCUSSION OF THE BRAIN : "Stunning."

Causes : Fall ; blow ; jar ; molecular derangement. From slight laceration to complete fluidification.

Prognosis : Good in mild cases. With much disorganization, more grave. May produce compression from hæmorrhage.

Diagnosis : Much resembles shock and thrombosis. Two groups : 1. *Primary*. Coma + or —. Answers, when spoken to loudly, but relapses again. Pulse weak ; relaxed sphincters ; muscles relaxed ; cold surface ; dilated and immovable pupils.

2. *Secondary*. Reaction. Warm ; conscious ; fever ; delirium ; vomiting ; running into encephalitis.

TREATMENT : Mostly medicinal. *Arn.*, *Opi.*, *Veratr.*, *Camph.* Vide "General Indications" and "Shock."

IRRITATION OF THE BRAIN :

Condition short of inflammation.

Causes : Laceration of the brain ; consequent on concussion.

Prognosis : Guarded, particularly with laceration.

Symptoms : Semi-conscious. Answers questions, but peevish, irritable, unobservant. Curling and twisting about. Frowning. Pain evident on fixing attention. At times convulsed ; at others delirious, shouting, etc. Pulse slow, feeble. Skin cool. Face pale. No signs of inflammation.

TREATMENT : Medicinal solely.

Remedies : Compare "Shock." Chiefly *Apis.*, *Arn.*, *Lach.*, *Con.*, *Stram.*

ENCEPHALITIS (TRAUMATICA) :

Inflammation of the brain.

Causes : Any of the preceding conditions.

Prognosis : Guarded.

Diagnosis : Difficult differentiation ; chiefly signs of inflammation pronounced.

Symptoms : Coma or delirium. Face and eyes red and full. Beating and throbbing in temples and carotids. *Holds head with the hand.* Pain severe, but not sharp and acute.

TREATMENT : Medicinal solely.

Remedies : *Acon.*, *Bell.*, *Glon.*, *Hyos.*, *Stram.*

DIFFERENTIAL DIAGNOSIS :

COMPRESSION.	CONCUSSION.	IRRITATION.	ENCEPHALITIS.
Pupils immovable, either dilated or contracted. Coma and stertor.	Dilated and immovable. Coma. Answers when spoken to loudly.	Twists and curls about. Answers questions peevishly if at all. No inflammation.	Evident inflammation. Holds the head with hands.

GENERAL INDICATIONS :

Acon., Ordinary primary febrile symptoms.

Apis., Single, sharp, shrill scream, sleeping or waking. Bores the head in the pillow.

Arn., Will not answer questions ; giddiness when moving or rising.

Bell., Will not talk, or fast talking ; vessels in head and neck enlarged. Violent headache, fiery eyes, and red face ; boring the head in pillow. Holds the head in the hands.

Camph., Deadly cold, with hot breath.

Glon., Fullness in the head, as if the brain were expanding, as if it were moving in waves. Pulsating pain.

Hyos., No wants except thirst ; pulsations so violent that the head shakes ; the head is shaken, or drawn to one side, with loss of consciousness, and red, sparkling eyes. Contortion of the eyes ; distorted, bluish face, and mouth wide open.

Opium. Complete loss of sense and motion, with relaxed

muscles; eyes half open, and turned up; face bloated, and dark red; stertorous inspiration.

Stram., Loquacious delirium; staring, glistening eyes; anxiety and fear, expressed in the countenance; distortion of mouth.

WOUNDS OF BRAIN:

Not necessarily fatal. Oftener from fracture, concussion, gun-shot injuries. Wounds of pons or medulla most fatal; recovery in any case rarely complete. Extract the missile, if it can readily be done; give free exit to discharges. Symptoms of compression indicate effusion. Keep down inflammation, and treat external wounds on general principles; treat symptoms as they arise.

HERNIA CEREBRI:

Protrusion of brain substance from opening in the skull. Oftener traumatic; rare cases congenital.

Prognosis: Good when small, and general health fair. Fungus of varying size, pulsating synchronously with arteries, covered by meninges; soon disorganizes and fluidifies. Primarily, little cerebral irritation; later, coma, strabismus, death.

TREATMENT: Shave off; compress, close wound.

FUNGIOUS OF THE DURA MATER:

Tumor from dura mater.

Cause: Unknown; excited by long-lasting meningitis or injury.

Diagnosis: Difficult; mixed with compression, irritation, hernia-cerebri, etc. After perforation, soft mass; can be pushed back into the cranium, causing faintness and nausea. Diplopia, syncope, deafness, etc.

TREATMENT: Extirpation. Remedies have never cured.

FUNGIOUS OF CRANIUM:

Soft tumors of skull, like atheroma. Usually ulcerates and sloughs out. Skin discolored. Cannot be pushed back. No cerebral disturbance.

INJURIES OF HEAD:

1. *Scalp. Contusion*: Rarely calls for more than *Arn.*, or *Ham.* May be fracture and depression, without wound of skin. Tendency to diffuse inflammation and suppuration.

Wounds: Of all kinds; to be treated as elsewhere. Lacerated most common.

2. *Skull*: Fracture, direct, or contra-coup. Stellate, depressed, longitudinal, or separation of sutures. May be fracture of inner table, whilst the outer remains intact, forming exostosis, or suppuration, epilepsy, etc.

XXIII. ABDOMEN AND INTESTINES.

CONTUSIONS :

1st Degree: Confined to parietes ; any degree of contusion. (Vide "*Wounds*.")

2d Degree: Force extends to viscera, and may be paresis, or molecular derangement, short of actual laceration. Rare accident.

Diagnosis: Difficult ; functional suppression, derangement, or reflex action ; e. g., vomiting, suppression of urine, etc. Weight, but little pain : *Arn.*, particularly when there is some hæmorrhage. *Con.*, when no blood, and feeling of weight predominates.

3d Degree: Laceration of viscera, with or without lesion of integument.

Diagnosis: Obscure ; kidney crushed, and no signs of accident. (ERICHSEN.) Usually symptoms of hæmorrhage, which may be told by excretions, as urine, in kidney cases ; fæces, in intestinal or gastric, etc. Shock, considerable. Functional disturbances, as in *2d Degree*.

TREATMENT: Unsatisfactory. Left largely to nature. Prevent unnecessary motion. *Arn.*, often useful ; irrespective of degree.

WOUNDS :

Penetrating. Non-penetrating.

Latter as other wounds.

Penetrating: Serious, from injury to viscera. Peritonitis oftener follows, in recent cases subdued by *Acon*. Intestinal wounds, when small, left alone ; larger, close with cat-gut, and returned to abdomen. Visceral lesions, according to special indications, bleeding, etc. Suppuration may ensue. Early opening ; prevent admission to peritoneal cavity.

Gun-shot injuries, vide "*Wounds*."

RUPTURE OF BLADDER :

Usually when full. Collapse. Severe burning pain ; inability to urinate, or only bloody water. Result, peritonitis, extensive sloughing, suppuration, pyæmia.

TREATMENT: Retention of catheter. Incision, as in perineal lithotomy. *Arn.*

FOREIGN BODIES IN BLADDER :

Frequently found ; large list. Must be extracted early, or may become encrusted with salts and require lithotomy.

LACERATION OF URETHRA :

From direct violence. Disastrous results : Perineal abscess, and fistula. Treat as rupture of bladder, and preserve the pa-

tency of the canal. Sometimes very extensive sloughing. *Hyperic.*, will often overcome irritation, causing retention.

Remedies:

Arnica: Contusions, with extravasation of blood.

Arsenic: Resulting in gangrene. Great prostration. Burning, changing to coldness.

Belladonna: Distended, but neither hard nor painful abdomen. Transverse colon distended.

Bryonia: Bitter taste in mouth. Stools dry, as if burned. Cannot make the least movement, on account of pain, yet cannot keep still.

Canth: Violent vesical inflammation, with strangury.

Cham: Peritonitis, with great impatience and irritability.

Coffea: Peritonitis, with exaggeration of sufferings.

Coloc: Sharp, cutting pains; bending double.

Lach., Visceral gangrene, with profound vital depression.

Nux Vom., Pressing, contractive pains, as consequent upon abdominal lesions.

Opium. Paralysis of intestines, or bladder, from concussion.

HERNIA:

Protrusion of viscera from any cavity, natural or artificial outlet. Technically, abdominal region: *Enterocoele*: Intestine alone. *Epiplocele*: Omentum alone. *Entero epiplocele*: Both together. *Reducible*, can be returned. *Irreducible*, cannot be pushed back. *Inguinal*: (a) *Direct*: Through external abdominal ring, or any point internal to epigastric artery. (b) *Indirect*: (*oblique*): Through both rings, occupying inguinal canal. *Femoral (or crural)*: Through crural ring. *Ischiatic*: Through ischiatic notch. *Umbilical*: At umbilicus; mostly children. *Pudendal, Scrotal*, etc.; variety of inguinal. **VENTRAL**: Through any part of abdominal walls where no normal opening exists. *Acute*, when recent; *Chronic*, when of long standing. *Cause*. (1) *Exciting*: Injuries of all kinds: sudden and forcible diminution in capacity of abdomen, as strains, etc. (2) *Predisposing*: Abnormal elongation of mesentery, acquired or congenital. Patency of vaginal process, from late (?) descent of the testes. *Symptoms*: Tumor suddenly appearing; elastic, painless (?) disappearing at night, re-appearing in the morning. Any size; few constitutional symptoms.

1. *Reducible*: Readily returned, gurgling sound, in enterocoele; sucking noise in epiplocele.

TREATMENT: Retained by well-fitting truss, flat-pad. Remedies, in recent cases: *Nux Vom.*, *Lycop.*, *Calc.*, according to symptoms. Operation for radical cure. Invagination of canal, retained by sutures.

2. *Irreducible*: Cannot be returned. Plastic adhesions; spasmodic constriction of neck of sack; inflation of knuckle

with air. *Primary*, in recent cases. *Secondary*, from accidental injury, from truss-pad, etc., of old reducible. Sudden pain, heat, discoloration of tumor. Later, vomiting, stercoraceous. Result, in gangrene, artificial anus, or death.

TREATMENT: (a) *Taxis*: By manipulation; draw gently down, with fingers in upper loop, and push up with base of hand. Abdomen relaxed by position, thighs, in femoral and inguinal, to be flexed and adducted. Failing this, anesthesia; inversion of patient. Injection of molasses, air, or generation of free gas.

Remedies: *Nux Vom.*, *Plumb.*, or *Opi.*, *Acon.*, to relieve soreness from handling in taxis. Aspiration.

Instrumental: Scalpel, director, COOPERS hernia-knife. Open integument, and layers, fascia by fascia; if possible divide constriction without opening sac. Gangrene of intestine; remove, attach free extremity to wound for artificial anus; later, close this by second operation.

INTESTINAL OBSTRUCTIONS. *Syn.*: Intussusception. From accident, or morbid processes.

Acute: 1. Portion of intestine strangulated in aperture in mesentery. 2. Invagination. 3. Twisting of intestine. 4. Plastic exudation. 5. Spasmodic constriction; direct or reflex irritation.

Diagnosis: Difficult. Local pain, constipation, vomiting becoming stercoraceous. Distension of abdomen, rolling of wind, mental disturbance, prostration. Sudden attack.

TREATMENT: Free gas; injection of air. Remedies as in hernia.

Chronic: Caused in two ways. 1. Scirrhus of the bowel. 2. Pressure of neighboring morbid growths; at times from plastic changes from acute form, slowly developed, increasing constipation.

Result: Gangrene and death, or sloughing with recovery.

Prognosis: Guarded in acute case, unfavorable in chronic.

TREATMENT: Varies with cause. Little to be done.

XXIV. GENITO-URINARY,

PROSTATITIS: Inflammation of the prostate. Rarely inflamed primarily; extension of process from near parts. *Acute*: From trauma, calculi, and gonorrhoea. Deep, burning, throbbing pain, difficult urination, weight and stuffing in rectum, with flatening of fæces. Easily detected with catheter and finger. *Chronic*: Same, slower progress, less violent. *Acon.*, *Apis.*, *Puls.*, and *Thuja*.

PROSTATIC ABSCESS: Secondary to prostatitis. Symptoms same as elsewhere. Danger of perineal fistula, organic urethral stricture. May be multiple or single. Early evacuation; *Hepar*, to hasten process, *Catheter* or *Bougie*, to prevent stricture.

PROSTATIC HYPERTROPHY: Senile; inflammatory; hyper-nutrition from irritation, e. g., onanism, or sexual excesses. Complete or lobular. Hard, when partial; soft, when complete; size varies. When hard is more than simple hypertrophy. (GROSS, *Uri. Dis.*, 687). Prostatic urethra sometimes dilated until it holds two or three ounces of urine. *Aur.*, *Bary c.*, *Calc.*, *Carb. v.*

PROSTATIC ATROPHY: Rare; continuation of destructive morbid process, pressure calculi (GROSS, *ibid*), JOD.

Congenital absence, even of bladder; ureters open in rectum, or vagina, or even pubes.

PROSTATIC TUMORS: Any form; oftener fibrous, scirrhus or encephaloid; oftener lobular hypertrophy. Symptoms as in enlargement. Proceeds from chronic irritation, leading to irregular or local super-nutrition, (GROSS).

PROSTATIC CALCULI: Frequently found, embedded in gland; in connection with calcareous degeneration of the aged.

Remedies in diseases of the prostate:

Acon., Inflammatory acute cases, with stranguary, heat and pain in perineum.

Apis., Burning, stinging in part, with purulent discharge.

Bary. c., Old persons with chronic hypertrophy.

Bell., High inflammation, redness of external parts, and pulsating pain.

Calc., Strumous, in the young.

Carbo v., Burning from a small point like from a coal.

Jod., Atrophy in characteristic persons.

Puls., Thick yellow-green discharge; better from cold.

Thuja., Sensation as if a drop were running through the urethra.

PERINEAL ABSCESS: From trauma, prostatitis, proctitis or peri-proctitis; may open into urethra, bladder or cellular tissue or through the integument. May result in fistula, either rectal or vesical. Open early, to avoid fistula. When a fistula forms [Urinary] and urethra is open, close the fistula as elsewhere. When the urethra is closed, restore patency.

URETHRETIS: Non-specific inflammation. Primary, secondary, extension from cystitis, etc. Heat, painful urination, pain in urethra; viscid mucous discharge, appears in last stage, sometimes absent, sometimes becomes chronic, with slight discharge for a long time, and alteration in urethral tissue. Incubative stage absent; little, if any constitutional disturbance; local irritation slight; inflammation begins deep in urethra; mucous membrane alone affected; glandular, vesical, or prostatic irritation either precedes or comes on early. *Caused* by cold, venereal excesses, local irritations, as from catheters, etc.

Remedies: *Acon.*, Acute cases. *Bell.*, Phlegmonous inflammation. *Puls.*, Profuse greenish discharge. *Merc.*, Serous dis-

charge. *Ars.*, Dry inflammation: promotes discharge. *Apis.*, Burning, stinging; profuse ill-smelling discharge.

STRICTURE OF URETHRA: Spasmodic. Organic. Single. Multiple. Permeable. Impermeable.

(a) *Spasmodic*: From local irritation; hyperæsthesia. Catheter gives elastic resistance. Any portion of canal, even whole length. Catheter at times easily introduced, difficult withdrawal. Beer-drinkers; cold, or acid drinks. Transient or persistent. *Acon.*, Acute cases. *Bell.*, Great sensitiveness to touch, but bears pressure. *Coff.*, Hypersensitive; exaggeration of the sufferings. *Ign.*: Hysterical cases. Hot hip baths.

(b) *Organic*: Firm, permanent constriction. From injuries, long-lasting inflammations, suppuration; plastic effusions from any cause. Established gradually. Catheter meets firm resistance. May result in false passages, from occlusion, or even fistula. Bridles, thickening of walls, or plastic bands constricting.

TREATMENT: Gradual dilatation. Rapid dilatation. Urethrotomy (a) External. (b) Internal. Electrolysis.

TUMORS OF BLADDER: All kinds, oftener fungous or polypoid. Symptoms as in stone, even to click, owing to incrustation with salts. Pain, weight in perineum, stoppage of stream in urinating, blood in urine.

CALCULI: Crystalization of urinary salts, (a) *Renal*. Form in kidneys. Uric ac., oxalate of lime, animal matter. Ragged, small. Great pain in passing to bladder, along course of ureters. *Pod.*, *Lyc.*, often will facilitate this passage, but pain may be sufficient to call for anesthesia.

(b) *Uretal calculi*: Arrested in ureter, from kidney. Pain in testes, and in course of ureter. Kidney soon partakes in irritation, which may extend to other side. Same treatment.

(c) *Vesical*: May be formed in the bladder, or come from kidney. Symptoms: Itching of meatus; weight in perineum; rolling in bladder; mucous in urine, even pus; sudden stoppage of stream in urinating; bloody urine. On using sound, elicits the characteristic click. Exceedingly difficult diagnosis. Cases with immense stones and no symptoms; others with no stone, and all the symptoms. May become encysted, thus modifying some symptoms.

(d) *Urethral calculi*: Stone arrested in urethra in passing from bladder.

Causes: Morbid processes that favor the crystalization of uric acid, or produces it in large quantities. Without nucleus, (VAN BUREN and KEYES, *Gen. Urin. Dis.*), cannot crystalize at normal heat of body. Retention of urine, favoring decomposition, as paralysis, pouching of bladder in the old, prostatitis, tumors or hypertrophy of this gland; cystitis, which furnishes ropy pus for nucleus. Nucleus from extraneous substances, as ball, bone or clot of blood. Causes, therefore, operating at a distance from urinary tract. "Mal-assimilation."

<i>Species of Calculi.</i>	<i>External Characters.</i>	<i>Chemical Composition.</i>	<i>Remarks.</i>
1 LITHIC, or URIC.	<i>Form</i> , flattened oval. <i>S. G.</i> , generally exceeds 1.500. <i>Color</i> , brownish or fawn. <i>Surface</i> , smooth. <i>Texture</i> , laminated	It consists principally of lithic acid. When treated with Nitric acid a beautiful pink substance results. Is very slightly soluble in water; abundantly so in pure alkalies.	The prevailing species. Surface sometimes occurs finely tuberculated. Often the nuclei of the other kinds.
2 MILKERRY.	<i>Color</i> , dark brown <i>Texture</i> , harder than others. <i>S. G.</i> , from 1.425 to 1.375. <i>Surface</i> , studded with tubercles.	It is oxalate of lime, and is decomposed in the flame of a spirit-lamp, swelling out into a white efflorescence, which is quicklime.	These include some varieties which are smooth, and pale-colored, like the hemp seed.
3 BONE-EARTH.	<i>Color</i> , pale brown or gray. <i>Surface</i> , smooth and polished. <i>Structure</i> , regularly laminated easily separating into concrete crusts.	Principally phosphate of lime; soluble in Muriatic acid	
4 TRIPLE.	<i>Color</i> , generally brilliant white. <i>Surface</i> , uneven, studded with shining crystals, less compact than No 3. Between its laminae, small cells, filled with sparkling particles.	It is an ammoniac-magnesian Phosphate, generally mixed with Phosphate of lime. Pure alkalies decompose it, extracting its Ammonia.	This species attains a larger size than any of the others.
5 FUSIBLE.	<i>Color</i> , grayish-white.	A compound of the two foregoing species.	Very fusible, melting into a vitreous globule.
6 CYSTIC.	Very like the triple calculus, but is unstratified, more compact, and homogeneous.	Consists of cystic oxide; under the blow-pipe it yields a peculiar fetid odor. Soluble in acids or alkalies, even if they are full of carbonic acid.	A rare species.
7 ALTERNATING.	Its section exhibits different concentric laminae.	Compounded of several species alternating with each other.	
8 COMPOUND.	No characteristic form.	The ingredients are separable only by chemical analysis.	

TREATMENT: For lithiasis, *Picric ac.*, *Scilla.*, *Phos.*, *Lith. carb.*, *Lyc.* often produce cure. For small stones, in bladder, Gettysburg water has expelled many, also dissolved them. (HELMUTH 1087). Ethereal solution of per oxide of Hydrogen a dose, gtt xx. thrice daily. (*N. E. Med. Gaz. VIII.*, p. 43), also solvent. Galvanism, doubtful.

Lithotripsy. THOMPSON'S lithotrite best. Crush stone, in several sittings, and wash out debris.

Lithotomy. Best method. Median; lateral; bi-lateral; supra-pubic. Lateral best. Instruments: sound, staff, scalpel, lithotomy knife (FERGUSON), forceps, scoop, syringe. *Never operate unless the stone is felt when patient is on the table.*

CATHETERISM: Male-catheter. Female. Mode of introduction. Caution about retained catheters; prefer frequent use.

GONNORRHŒA. Specific urethritis; from venereal poison. Infectious. In the female, inflammation of mucous surfaces of vagina, vulva, etc. Three stages:

(1) *Incubation.* Three to five days, or more. Then heat, swelling, itching of meatus; a drop or two of pus may squeeze out. Lasts two or three days. *Acon.*, in this stage will nearly always abort it.

(2) *Acute inflammatory.* Abundant discharge, muco-purulent, yellow fluid, smelling badly; painful urination; increased desire to urinate; urethra swollen, feels like a cord; gradually extends deeper, when weight and heat in perineum and anus, with complication of prostate and bladder. Whole organ or part swollen or inflamed; puffy swelling of prepuce. *Chordee*, pain, erection, with distortion of penis, from unyielding nature of urethral swelling. Usually lasts a fortnight, when untreated. *Apis.* will usually cure the case promptly in this stage, cutting down the duration to a few days.. *Ars. Apis* fails, and the pain is more burning, with deficient discharge. *Canth.*, *Rhus.*, *Merc.*, or *Bell.*, may be called for, particularly for the chordee. *Never use injections.*

(3) *Chronic inflammatory.* Diminished discharge, pain and irritation; discharge watery; smarting on urinating, for some-time. May continue for months, with slight glairy discharge. (*Gleet.*) Remedy, *Sulph.* will cure many cases.

Petros., Intense itching, biting in the urethra.

URETHRETIS.	GONNORRHŒA.
Speedy establishment.	Incubative stage.
Begins deep in urethra.	Begins at meatus.
Prostate, and deep parts, early implicated, or preceding.	Deep parts implicated later.
Sometimes no discharge.	Always discharge.
Mucous surface alone affected.	Deeper structures implicated.
Runs its course in five or ten days.	Runs a course of many weeks.

SALISBURY'S Algoid bodies, are not diagnostic; found in persons not affected.

Sequels. Rheumatism, often. *Accompaniments*, ophthalmia. *Modification.* Little discharge from intense inflammation and swelling of mucous lining.

SYPHILIS. Commencing in mucous membrane of genitals, usually, successively invading every tissue of the body. Communicated in many ways. Begins as ulcer secreting pus, which appears like pus from any non-specific sore. Any age. May be quickly developed, from abrasion, or slowly from absorption by mucous follicles. May be wiped off, after deposit, before infection. Some persons cannot be infected. A local manifestation of a general disease.

I. *Primary.* (a) CHANCRE. Hard or soft; dependant upon activity of process, and completeness of inoculation (?). Same virus; any part of body; oftener genitals. *Hard.* (Indurated: Infecting: Hunterian). Pimple, itching, then vesicle, pustule; hard, dark crust, which, when removed, reveals ulcer. Rounded or oval; sloping edges, high, hard. Firmly adherent gray lymph at base. Quite dry. About fifth day, induration of base and areola, like gristle, slightly elastic, and feels like a foreign body under integument; sometimes before chancre, again lasts long after sore is healed; less on perpuce or loose textures. Generally solitary. Inoculates healthy persons, but not those having had hard chancre, or the same individual. Incubation, 10 days to weeks.

Soft: (Chancroid. Non-infecting). Less regular form; more frequent. Multiple often; coming on simultaneously, or from auto-inoculation. Flat, soft, uneven, "worm-eaten," superficial. Sometimes indurated from irritating treatment. Discharge profuse, inoculable, to individual as well. Spreads rapidly. Incubation short, even 48 hours.

Infecting properties remain until granulations appear. Hard chancre protects from future attacks; soft, no such immunity. Both forms modified by circumstances, as phagedena, sloughing, serpeginous, etc.

Scars disappear in soft, and simple hard ulcers; persistent after large sloughing. Diagnosis usually easy; married persons deny exposure; unmarried readily admit it. Microscope shows, in infecting sore, epithelial cells formed and mature; soft ulcer, either few, immature, or imperfect, from rapidity of morbid action. (KIDDER. *Med. Report, U. S. N., III., p. 14*).

(b) *Bubo.*: Enlarged inguinal glands, when specific, appear at end of second or beginning of third week; follows either form, when inflammation not too high and destructive. *Always* with hard chancre, but pus not auto-inoculable. Same side as chancre. Both sexes; Men oftener. Discharge, and leaves sore like the primary ulcer. Modifications as ulcers; remains un-

changed for weeks or months, etc. Suppuration supposed to indicate non-infection.

2. *Secondary*. From 5 to 8 weeks. Skin, mucous surfaces. Worst form, joined with mercurialization. Foretold. (GROSS I, 311). (1). Indurated sore. (2). Soft if multiple or large extent. (3). Seat of chancre. (4). Duration of ulcer. (5). Patient's health. (6). KIND OF TREATMENT. (7). Degree, etc., of inflammation. (8.) Idiocynergy, sometimes comes on before primary ceases. Inoculable in non-syphilitics. Some days before feels unwell, fever. *Forms on skin*. Exanthema; Scaly; Vesicular; Pustular; Tubercular; Papular. Always chronic. Coppery color. *Mucous surface*. Erythema; Tubercles; Ulcers. (Refer to "*Practice*"). Alopecia tonsurans, and general.

3. *Tertiary*. Six to eighteen months, or even many years. Visceral, or on skin; mucous membranes; Periosteum; Bones; Cartilage; Tendons; Testes; Gummata. (Refer to "*Practice*" and preceding lectures).

TREATMENT: Local treatment hurtful and useless. *Primary*. Promote suppuration of buboes, but do not open until ripe..

Hard chancre: *Merc. Cor.*, In most cases specific. Soft chancre: *Nit. ac.*, or other remedies as indicated in ulcers; particularly *Merc. cor.*, *Kali. bich.*, *Ars.*, *Sulph. ac.*

Secondary. Prominently, *Jacaranda*. (SCHLUSLER A. H. Z. 75. 182. Also Med. Invest. V., 285.) *Merc.*, *Aur.*, *Asaf.*, *Nit. ac.*, *Sulph.*, *Thuja.*, as indicated by special symptoms.

Tertiary. Symptomatic entirely.

Mercurialization added: *Asaf.*, *Aur.*, *Hep.*, *Nit. ac.*

PHIMOSIS. Elongation of prepuce, with narrowing of orifice, sometimes adhesions to glans. Congenital, or acquired. Produces epilepsy, and other reflex phenomena. (PROF. JERNEGAN. *A. H. Obs. XI.*, 85). May result from accident.

TREATMENT: Circumcision. Nick mucous membrane, and stitch it back to skin.

PARAPHIMOSIS. Opposite condition; drawn back and cannot be replaced. Usually acquired, accidental, and acute. Must be reduced by pressure on glans with thumbs, and drawing forward with fingers. Sometimes need to be nicked with scalpel. When much inflamed, reduced somewhat by cold applications.

BALANITIS. Suppurative inflammation of prepuce and glans, (erysipeloid?). Causes are manifold; anything that sets up inflammation, in subjects favorable to this form of development. Profuse discharge, much inflammation and swelling, without apparent abrasion of integument. Prepuce may be enormously swollen. *Bell.*, often cures promptly. Other remedies as symptoms arise.

ORCHITIS. Syn.: Hernia humoralis: Blennorrhagic epididymitis. Swelling and hardness of testicle, usually one-sided, red, hot, painful; pain extends up the spermatic cord; sometimes

scrotum is covered with small vesicles, drying up in scales. Fever, usually high. The testes may be inflamed alone, or complicated by similar process in other near tissues. May proceed to suppuration; when the pain will be unsupportable, and the whole gland may be destroyed. A button-like enlargement of the epididymus may remain after cure. *Cause*: Trauma, cold, suppression of gonorrhoea or urethritis, use of injections, etc.

TREATMENT: Support the scrotum in a sling. Cooling application admissible.

Remedies: *Acon.*, early stages; high fever.

Aurum., In syphilis or mercurial cases, with great weight and aching in part.

Bell., High inflammation; great dread of motion, or jarring the bed.

Lach., Black blisters on scrotum.

Merc., Constant aching pain, with increase of suffering from heat.

HYDROCELE. Effusion of serum into tunica vaginalis. *External*, when in cellular tissue. Acquired or congenital. Large, smooth, non-inflammatory swelling of scrotum; fluctuation; transmitted light shows testicle at back part of swelling. May resemble hernia, but does not disappear on lying down, and grows slowly. Exploration to settle diagnosis. Fluid of light straw color.

TREATMENT: Evacuation with trocar and cannula, and injection of some irritating substance to promote adhesion. Removal of a small portion of sac; electrolysis. Old cases, wall thickened, obscures the diagnosis.

Remedies: *Sil.*, Particularly successful. Also, *Graph.*, *Puls.*, *Rhod.*, *Sulph.*, *Apis.*, *Arsen.*

SARCOCELE. Chronic orchitis. Testes enlarged, and undergo various forms of tumor degeneration, generally sarcomatous or cancerous, some cases fibrous. Testicle is ultimately lost, and place supplied by new tissue. Often of syphilitic origin.

TREATMENT: Castration, when complete. *Puls.* and *Sil.* are credited with cures in the journals and text-books.

VARICOCELE. A varicose condition of veins of scrotum and cord. Soft, doughy, compressible swelling, knotted, unequal surface; larger below. Tumor smaller on lying down. Feels like a mass of worms, differentiating from hernia. Debility of sexual sphere either a cause or effect; often on left side. Cause, sexual excesses, constipation, impeding venous flow, constriction from pantaloons, etc., as well as general atony.

TREATMENT: Elastic bandage; obliteration of veins, by ligature; (hair-lip pins). Care not to include spermatic vesicles, etc.

Remedies: *HAM.*, *Nux. vom.*, *Sulph.*, *Puls.* Compare "Varix."

HÆMATOCELE. Effusion of blood into scrotum, or some of the tunics, from accident. History serves to make out the diagnosis. Decomposition of blood may cause pyæmia, or suppuration. Remove by aspiration, or small trocar, closing opening with collodion. *Arnica*, when tumor is small, may cause resorption.

XXV. CHEST.

WOUNDS: *Non-penetrating:* As elsewhere. *Penetrating:* First importance; implicates viscera. By weapon and fractured ribs. Five considerations.

(1) **HÆMORRHAGE:** Usually internal; large vessels, fatal. Auricles of heart, or transverse to fibres, fatal. Small coagula, causing embolism. Pulse falls; surface anæmic and cold; ringing in ears; syncope; oppression of chest; labored, panting breathing. Anxious. Vomiting of blood, if œsophagus wounded.

TREATMENT: Body-bandage; prevent motion. *Arn.*, cause resorption of effusion. *Merc.*, prevents pyogenesis? No probing. Hermetically seal wound.

Concussion of Chest: May produce death, from paralysis or laceration of viscera. Symptoms as in hæmorrhage; can only be suspected.

(2) **EMPHYSEMA:** Infiltration of air into cellular tissue; often in thoracic region. Wounds of larynx, trachea, or lungs.

Sub cutaneous: Inter-lobular:

Sub-cutaneous: Enormous swelling, pale color; crackling on pressure. Edematous appearance, but no pitting. May be reduced by firm, equable pressure, but fills up again. May terminate in gangrene or ulceration.

Inter-lobular: Rupture of air cells. Great oppression and fullness in chest, as in congestion. Symptoms of asthma; may simulate hæmorrhage. Death imminent from actual suffocation, on account of expiration being imperfect.

TREATMENT: Very difficult. *Sub-Cut'* form, firm bandaging; even incisions. *Int'-lob'*, pressure contra-indicated. *Ars.*, or *Kali C.*, may relieve.

Arsen., When relief from sitting up, and warmth.

Kali C., Better from bending forward, as with head resting on table.

Moderate infiltration, may need no treatment. DIEULAFOY'S aspirator, may afford relief. (Vide "*Pneumatic Aspiration.*")

(3) **PNEUMO-THORAX:** Infiltration of air into pleura. Similar in symptoms, etc., to emphysema. Resonance on percussion, but not so urgent or grave a condition. Frequent aspiration, or even, in bad cases, cannula retained.

(4) **TRAUMATIC PNEUMONIA:** Identical with idiopathic form. Greater tendency to suppuration (?). *Acon.*, *Merc.*, *Sulph.*, or *Arn.*

(5) **EMPHYEMA**: Collection of pus in thorax. Succeeding traumatic pneumonia, or thoracic hæmorrhage.

Diagnosis: Obscure. Rely upon history of case, and results of auscultation as indicating presence of fluid. Rigors.

Pus unhealthy, mixed with dèbris, and rapidly breaks down lungs, and may form long sinus, and destruction of bones. Pyæmia.

TREATMENT: Evacuate freely and completely. Paracentesis thoracica, or aspiration. No attempt to absorb: (Vide "*Abscess.*")

HYPERTROPHY OF BREAST:

Two forms: 1st. Hard, firm, elastic. Little pain; or neuralgia. Prominent, smooth, shining. Natural color.

2d. Breast doughy; lobes separated; sulci readily found. Unconnected with chest. Hangs down; some cases (ERICHSEN) as low as the knee. Stretching of skin, etc., simulates malignant disease.

Men and women alike subject. Any period between puberty and climacteric. Both glands usually affected.

Enlargement, in either case, may be lobular or entire. When lobular may become malignant, or form true tumor. Cautious diagnosis.

TREATMENT: Removal, when symptoms of degeneration appear, or the size is great.

Remedies: *Baryta C.*, Past climacteric; strumous; small, but firm.

Bell., Rapid growth; much inflammation. Tender to touch.

Calcar. C., Struma. Tendency to suppuration. Calcarea subject.

Conium., Heaviness, biting, as from fleas. *Aversion to solitude, yet dislikes company.*

Iodine., Swelling hard and small; secondary tendency to atrophy. Coarse hair, skin, etc.

Nitric Ac., In sycotic cases. Splinter-like sensation in part.

Silicea., Moderately hard swelling, with intolerable itching. Clammy feeling of part.

TUMORS OF BREAST:

Of all kinds. Readily diagnosticated, except (?) from lobular hypertrophy. Oftener, Fibrous, Fatty, Scirrhus, or Cystic.

Fibrous: As elsewhere. Nodulated; not deeply attached; flushed skin. Gland becomes absorbed, but tumor still nodulated, from impression at start, growing between lobes. Hard, compressible. Nipple prominent or normal. Sometimes discolored skin, and ulceration. May even have glandular engorgement in the axilla. No cachexia.

Fatty Tumors: Difficult detection. In sterile women, past climacteric. Gland ultimately absorbed, or undergoes fatty metamorphosis.

Cystic Tumors: From occlusion of milk duct. Resemble an abscess, heightened by appearance of discharge on puncture. Sometimes attain immense size. Diagnosis easy: Fluctuation and exploration.

Scirrhus: Common. May be encephaloid, or colloid, or compound. (Rare.) Stony hardness; immobility; discoloration of skin; *retraction of nipple*. Skin adherent; veins enlarged; axillary infiltration. Cachexia; anamnesis. Mental depression.

Ulceration: (Vide "*Tumors*.") Sometimes tumor extruded through ulcer.

NON-MALIGNANT.

FEEL: Moderately hard, nodulated, irregular in shape, lobed, not very distinctly circumscribed, sometimes elastic in parts.

MOBILITY: Considerable, but occasionally there is a deep pedunculated attachment.

SKIN: Natural color throughout, though thin and expanded, with the tumor lying close beneath. Only complicated in the last stage of cystic sarcoma.

NIPPLE: Usually *not* retracted.

VEINS: But little dilated.

PAIN: Often moderate, if severe continuous, of a neuralgic character, much increased by handling.

AXILLARY GLANDS: Of usual size, or but slightly enlarged; movable. Lymphatics not affected; supra-clavicular glands not affected.

No constitutional infection.

MALIGNANT.

Stony hardness, knobby, distinctly circumscribed, or else somewhat square, and occupying the whole of the substance of the gland.

At first considerable, but soon becomes fixed.

Early implicated; at first dimpled, then red or purple; in other cases brawny or leather-like, so that it can not be pinched up into folds; or nodulated, purple-red masses form in it.

Usually retracted.

Much dilated.

Severe and lancinating, especially at night, after handling, and when the skin is implicated, but *not* continuous.

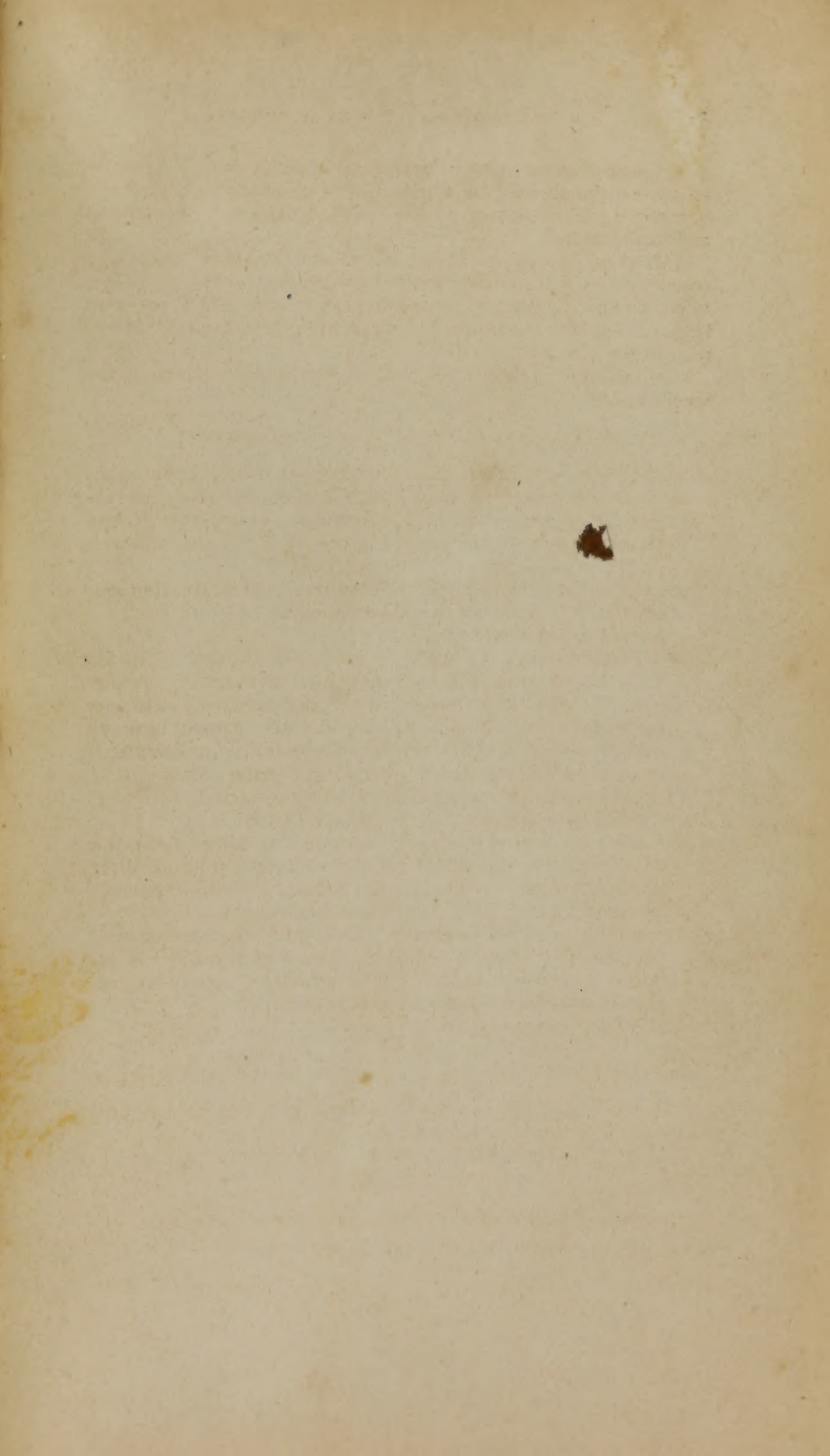
Enlarged, indurated, and fixed; indurated mass stretching into the axilla; supra-clavicular glands enlarged.

Cachexia as disease advances.

TREATMENT: Excision in all benign growths, or in malignant before glandular infiltration.

Other treatment, as in "*Tumors*." No escharotics.

NOTE.—Diseases of the *Eye, Ear, Female Genitals*, etc., belonging to other departments, have been omitted.



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